

EBB AND FLOW ON THE BLUE DANUBE

While climbing up the control tower of the lock I had the feeling I was going to watch a few planes taking off or landing. The construction was high, elastic, made of concrete and glass, with an aerodynamic shape and a prismatic geometry. The cabin windows were enormous, panoramic, bent inwardly, giving the impression of water flowing right under one's feet. The wind swung the building as if it had been a steel sheep designed to face any storm and earthquake. It was not a sunny day, such as those we all dream to bathe on during our vacations.

this week's reportage

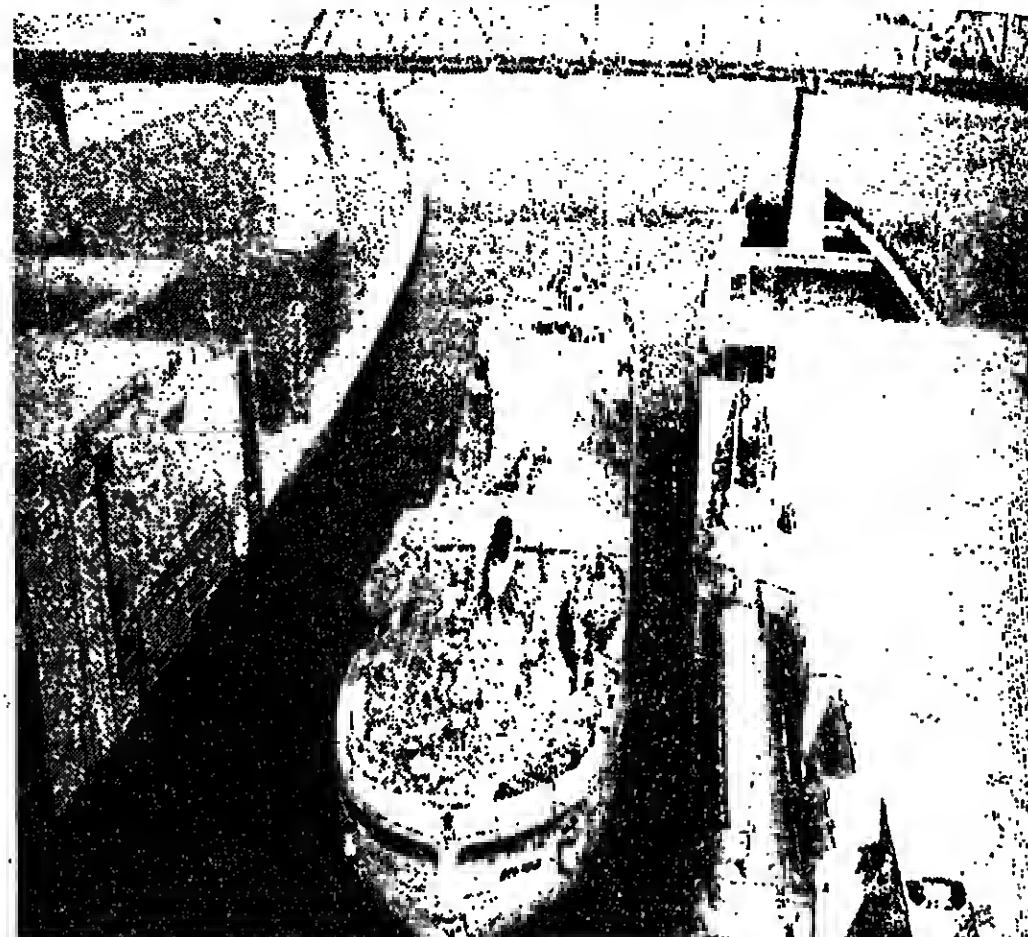
It was early in the morning and the control crew were all present in the tower to supervise the passage of the first sea-going ship of that day, through the lock No. 1, therefore coming from the sea into the river. On the afternoon of the previous day I had witnessed the routine check of all the installations making up the lock No. 2, the operation of filling up and clearing out water segments, worthy of a cinematograph. Nothing out of order. In other words the equipment was functioning like clockwork and therefore builders had done their duty, in line with their previous hydro-power dam achievements. To resume my account of the Agigea lock No. 1 control tower, I must mention that it lies between the 44th and 45th km of the Danube. From up above, the twin locks look like two huge vessels. Albatrosses were flying close to where I was sitting as if trying to touch my forehead with their wings, shrieking and then diving violently into the water.

In the horizon I could see a sea-going ship called Orion, sailing under Yugoslav flag as she prepared to enter the Danube through the lock heading for the other ports and stopovers along the river, deep into the heart of Europe. From a distance the ship looked very small. But as she approached the lock gates facing the sea she gradually and somehow magnificently came into its own. It seemed to outweigh the overall dimensions of the filling and closing segment. Inside the lock water was brought to the sea level. Before the ship could pass under the upstream railroad bridge near the sea, engineer Radu Savorin who supervised the operation of passing through the lock, through the Canal, asked whether the metallic antenna popping up from the mast was below 31 metres. A voice coming through the radio station assured him that it did not exceed 31 metres. And yet to him the antenna seemed to be higher than the bridge level, running the risk of crashing against the embank-

ments. On the contrary, clouds were hustling by, with luring peepings of the sun arising from the waters. Actually it was both raining and snowing and the wind was blowing in gusts. The water of the Danube-Black Sea Canal was raising waves into the horizon, flowing into a darkened sea.

mont. Once again he was assured by people on deck that nothing of the kind would happen. Finally, the lock gates opened, unfolded and then folded back laterally. The ship slid through the lock area. It was 9.31 a.m. The ship's crew stood at attention, hoisted up on deck. A ceremony now part and parcel of the "elegant manners" observed on any canal of the world. The albatross got closer to the bridge. It touched the bridge planks, bending like a spring and then returned to its normal position like a baloon in the hand of a conlurter. The control team relaxed with a sigh of relief. A flight of albatrosses landed on the ship's deck. As it passed under us, the vessel looked like a giant, a floating pyramid. Encoded messages beeped in and out the radio station. Every move of the ship through the lock was carefully watched on the control panel of the tower. Moments of silence, of watchfulness accompanying the vessel's passage through the locks alternated with moments of a "radio broadcast play" dominated by calm voices taking over orders. The ship passed the limits of the gate facing the sea and entered the lock proper, with a length of 310 metres and a width of 26 metres. Slowly, the gates from the sea closed behind her, set in motion by electronic remote control. Thus as they are, made of solid metal, the gates are not allowed to close below a safety coefficient of three millionths. From that moment started the mooring of the ship who due to lateral equipment might lose her balance when the basin is filled up to the level of the Danube waters, therefore rising by 7.68 m. Step by step water began to grow inside the lock like a controlled tide, until the ship reached the river's water-level. An

Photos: Two instances of the lock of Agigea and the lock control room.



operation which, naturally, went on smoothly. A safe, routine operation. Finally, the gate facing the Danube went under the lock, making room for the ship to pass easily, like a dream, beyond the memory of the sea crossed up to the point. Afterwards, the water were guided into another perfectly controlled sea, lowering so as to receive other boats. It was 9.15 a.m.

The ship was now heading for the lock of Cornova. From the control tower I looked at the locks surrounding the lock. Then convinced by a layer of ice snow, that at the turbid sea to into the distance, I looked at the canal's mouth, from the lock gates by a pier, last the waters should penetrate the Danube too deeply, or the other way round, to prevent the river's water from flooding the neighbouring shores. And the neighbouring shores, in the direction of the ship from the lock, ahead the major bridge crossing the Canal, the largest Agigea bridge, with its albatross-like silhouette (taller all from the ground, a bridge connecting all the conglutinations at the Black Sea littoral, which was quiet and deserted. At that moment the lock No. 2 of Agigea was preparing to receive a train of barges loaded with ore and oiled coal heading for Chirihni, Negru, and Haidouza, coming from the Constanta non-port and the world sea.

ADRIAN DOBROTA

EIGHT YEARS OF A RIVER'S LIFE

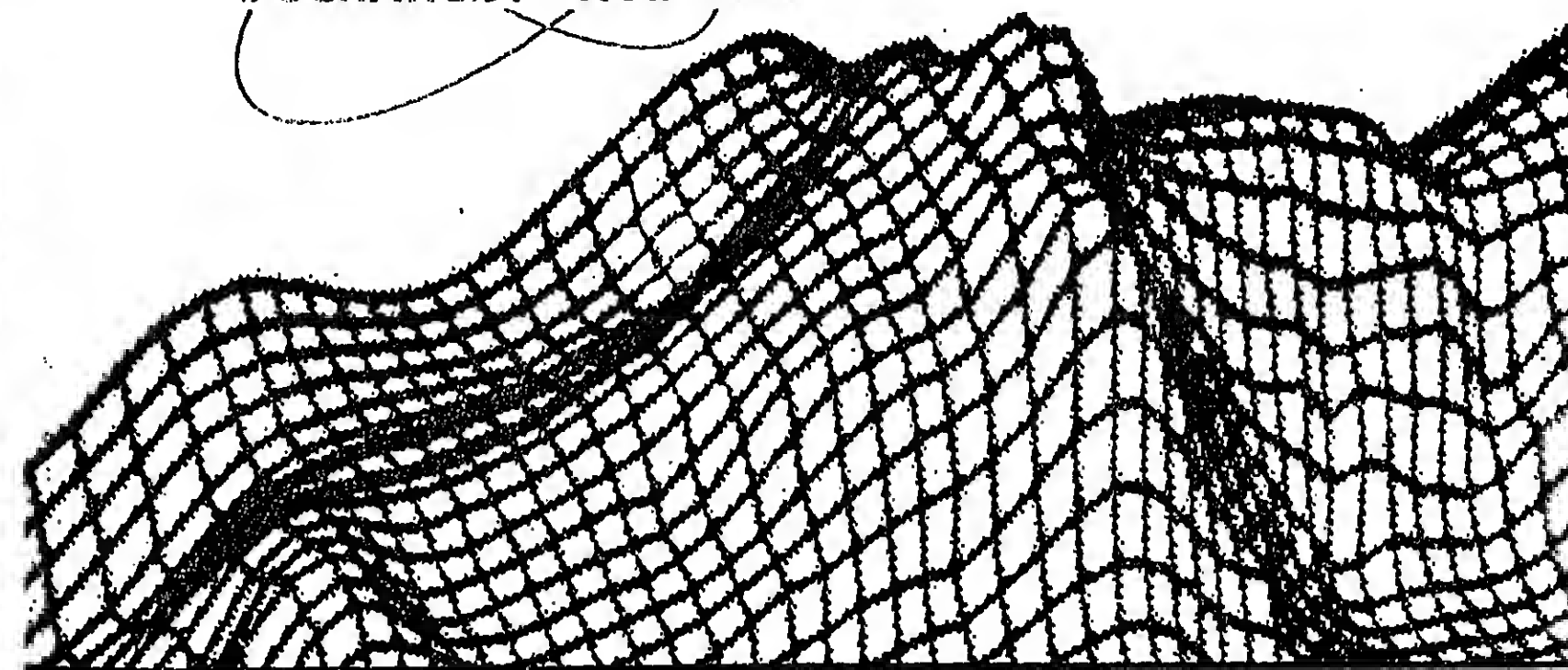
The Danube-Black Sea Canal was opened on May 26, 1984, at 8.47, in the presence of Nicolae Ceausescu, the President of the Republic.

- The Canal was designed and executed by Romanian specialists and workers.
- Its execution lasted eight years.
- The file of the complex project comprises 10,000 separate projects and over 33,500 details of execution.
- 30,000 people worked here during periods of maximum concentration.
- Over 7,000 vehicles of various tonnages, 310 excavators, 480 bulldozers, 177 cranes, 70 tower building cranes, 14 draglines, 17 conveyor belt systems were used.
- Over three millions and 100 cubic metres of concrete and reinforced concrete were poured.
- 300.9 million cubic metres of earth and rock were excavated.
- The total length of the Canal is of 64.3 km.
- The Canal has three river ports, as well as a large sea and river port Constanta.
- A traffic of almost 50 million tons can be annually sent through the two locks of Cornova and Agigea.
- 24 trains of barges of up to 18,000 tons can be sent through the Canal.
- The Canal waterway cuts the transport distance of the Danube from Constanta to the Black Sea by 400 km.

ROMANIAN NEWS

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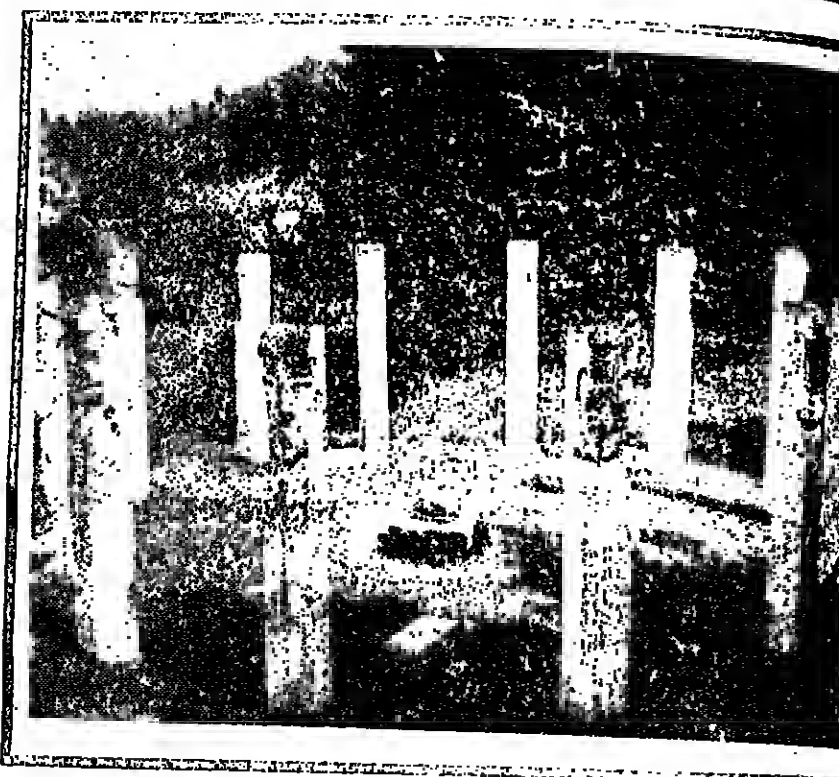
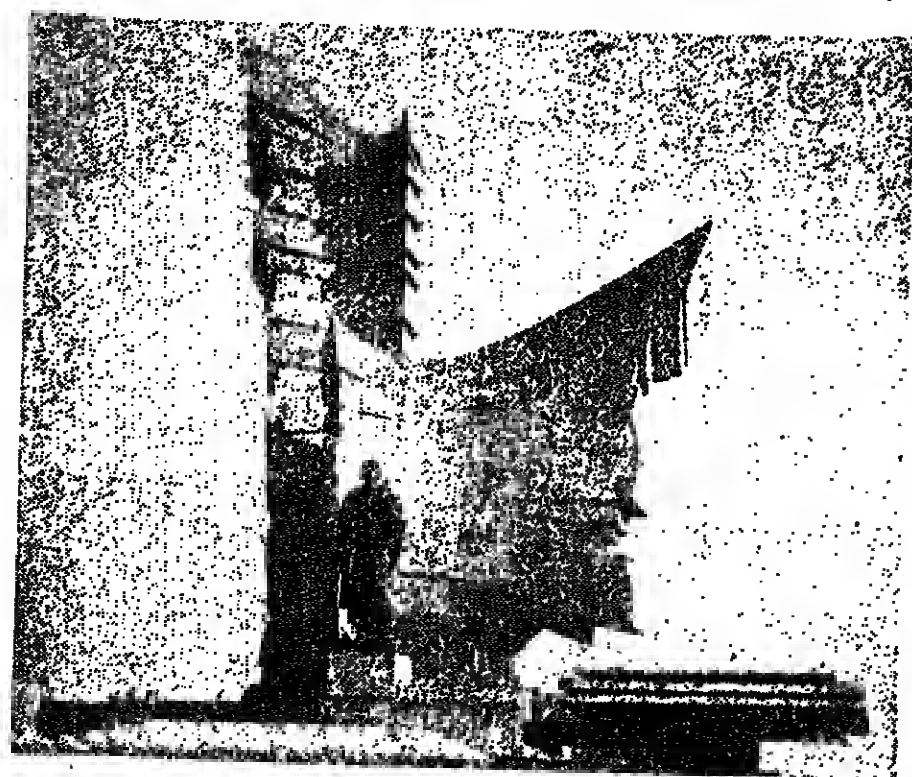


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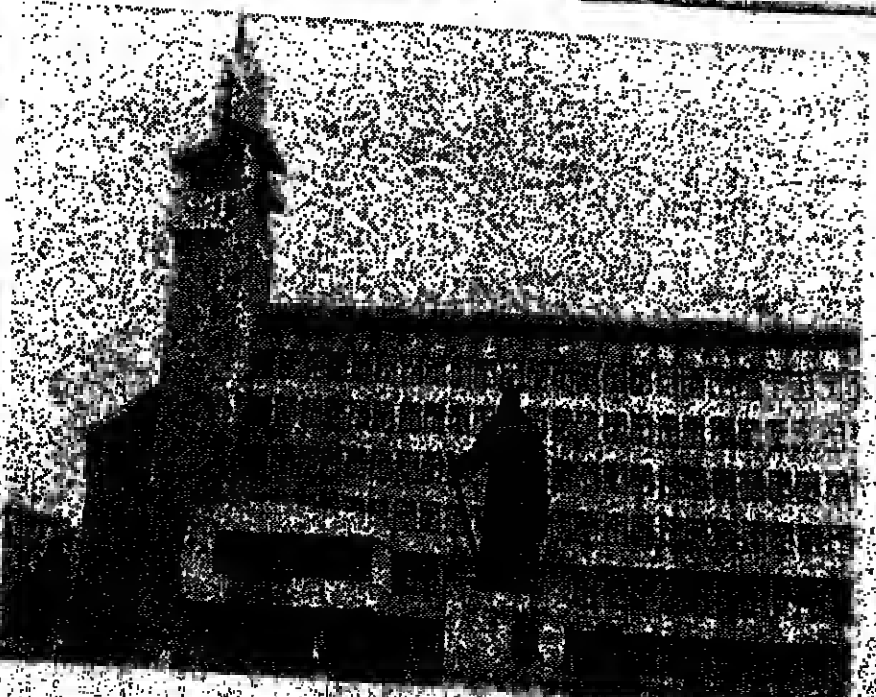
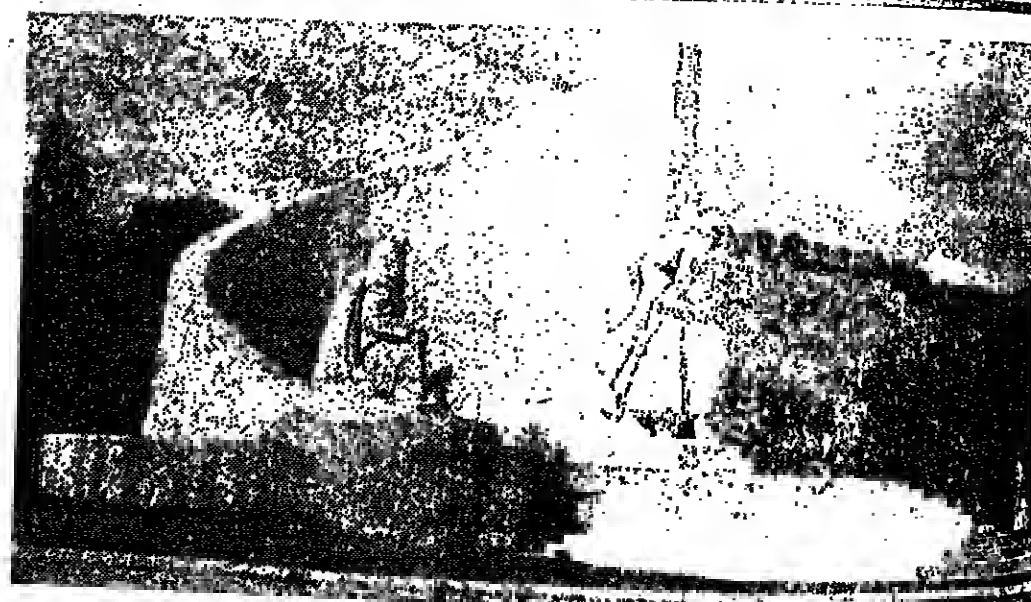
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A fine arts genre in great favour with the public, concentrating attention and channelling intellects towards a major idea is monumental art. Romanian history, its great moments have been a permanent source of inspiration for monumental sculpture. Numerous works erected in many of Romania's localities have largely contributed to reshaping the environment in an aesthetic way. Of them, we should mention: the Monument of Moisei, signed by Vida Geza, paying homage to the peasant and heroism; "Independence" by Gabriel Monea Ador and Gheorghe Ador, in Iasi; "Mircea the Great" by Ion Jalea, in Tulcea; "Stephen the Great" by Iftimie Birlanu, in Suceava and Vaslui; "Michael the Brave" by Oskar Han, in Alba Iulia; "Michael the Brave" by Marius Rotulescu, in Cluj-Napoca, and "Avram Iancu" by Emil Mereanu at Bala de Cris; "Stephen the Great" by Mircea Stelianescu and "Petru I. Arad" by Paul Vasilescu in Suceava. "Ion Voita" by Gheorghe Turcu, of Rastol as well as a long series of monuments to the Romanian soldiers erected in Bala Mare, Paltin, Sinaia, Gheorghe, Romania. Their lives for social and national justice. Monumental art is thus closely related to the people's life, being a vast area of assertion and flourishing and enjoying broad social resonance.

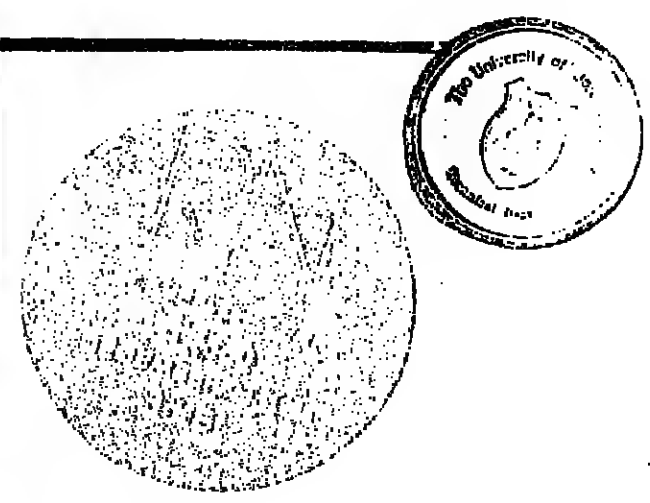
PAUL ANTIM ■



In photos: top left — the Phala Monument; bottom left — "Mircea the Great" in Tulcea; top right — Statuary Complex at Oradea; below — Sculptural Ensemble at Dealul Florilor; Bala Mare; middle — "Independence" — Vaslui and "Michael the Brave" — Alba Iulia; bottom middle — "Stephen the Great" — Vaslui.

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ROMANIAN NEWS



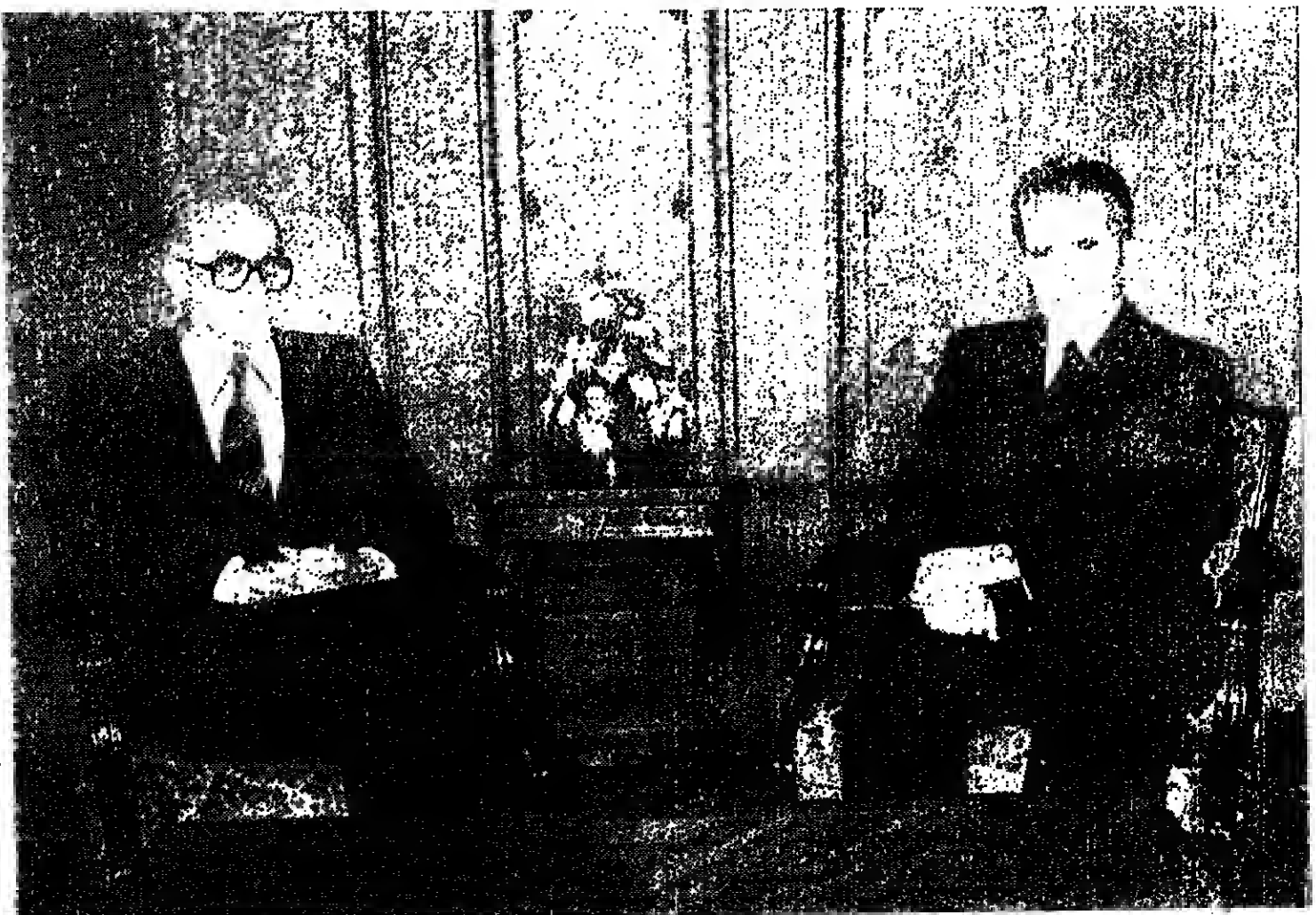
TIES OF FRIENDSHIP AND COLLABORATION ON PRESIDENT NICOLAE CEAUȘESCU'S INVITATION, THE PRESIDENT OF YUGOSLAVIA'S PRESIDUM, RAI DIZDAREVIC, PAYS AN OFFICIAL FRIENDLY VISIT TO ROMANIA

At the invitation of the General Secretary of the Romanian Communist Party, President of the Republic, Nicolae Ceaușescu, the President of the Presidium of the Socialist Federal Republic of Yugoslavia, Rai Dizdarevic, arrived in Bucharest on Thursday, December 22, on an official friendly visit to Romania.

The new Romanian-Yugoslav summit falls in line with the rich chronicle of the traditional meetings between the two countries' party and state leaders which have on every occasion contributed to the expansion of the bilateral relations of friendship and collaboration.

This was actually underscored during the first round of talks by President Nicolae Ceaușescu who hailed the official friendly visit paid by Rai Dizdarevic to Romania and voiced his satisfaction at continuing the traditional Romanian-Yugoslav summit dialogue, a factor of highest significance for strengthening the bonds of friendship and cooperation between the two countries and peoples.

In his turn, President Rai Dizdarevic thanked for the invitation to visit Romania, for the hospitality extended to him and expressed satisfaction at meeting President Nicolae Ceaușescu and analysing together...



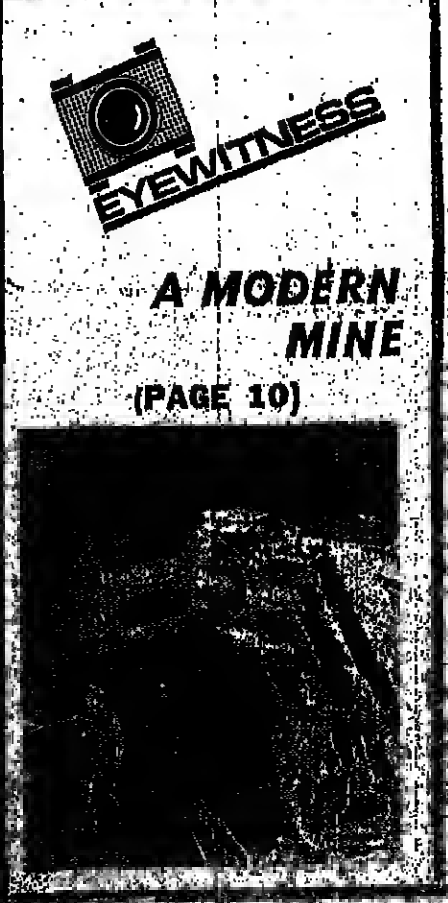
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HOLIDAYS IN A WINTER SCENERY

Over December 28, 1985 — January 3, 1986, the "Winter free" celebration will be organised. Substantial funds have been earmarked for this traditional celebration.

(PAGE 7)



EYEWITNESS A MODERN MINE

(PAGE 10)



LOW-CONTENT MINERAL RESOURCES

(PAGES 4-5-6)

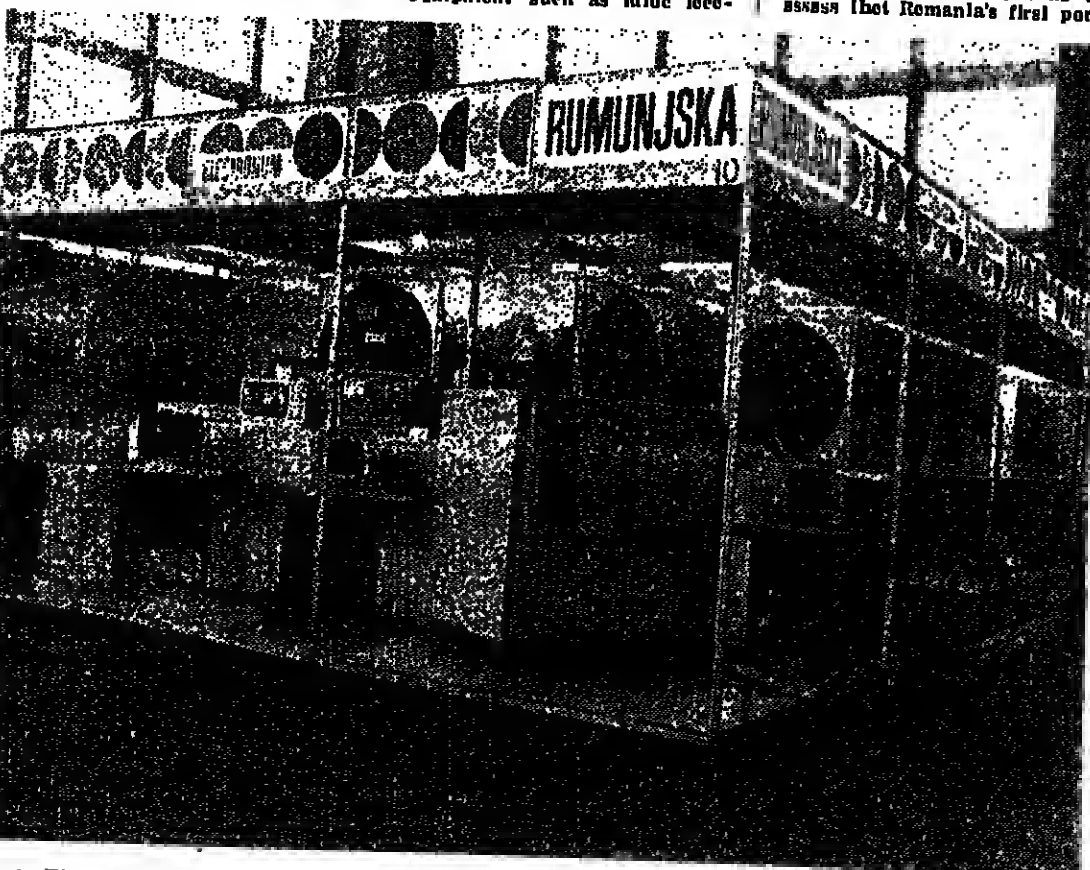
UNANIMOUS APPRECIATION OF THE ROMANIAN OFFER

In 1985, Romania entered 37 international fairs. In many of them, the Romanian participants were awarded diplomas and medals for the products' quality and technicality, for the attractive and modern way in which they were put on display. Of these we should mention the diplomas obtained by the Masinexport-Import and Industrialexport-Import foreign trade companies for their consistent participation, over 25 years on end, in the Leipzig International Fair, the diplomas obtained by the Masinexport-Import company at the international fairs in Dubai, Cairo, Budapest, Moscow, Damascus, Bagdad, Bonn, Nairobi, Havana and Lima. Finally, the diplomas awarded by the Confex foreign trade company for its consistent attendance of the autumn Leipzig International Fair over the last 15 years.

INTERNATIONAL ENGINEERING EXHIBITION

For several years now, the Romanian-Australian relations have seen an upwards course. This year's Romanian-Australian summit meeting resulted, among other things, in an intensification of the bilateral commercial ties and an expansion of cooperation in areas of mutual interest, as for instance the extractive industry.

In this context, Romania routed among the eleven official participants in the International Engineering Exhibition staged in Sydney, being represented by foreign trade companies exporting high-tech products, such as Masinexport-Import, Electronum, Tehnimport-export and others. The technical performance of the Romanian exhibits and the design of the stands won the experts' and the visitors' high appreciation, which was actually mirrored in the pages of the Australian publication Daily Exhibition News, which included information about the Romanian pavilion in three of its issues.



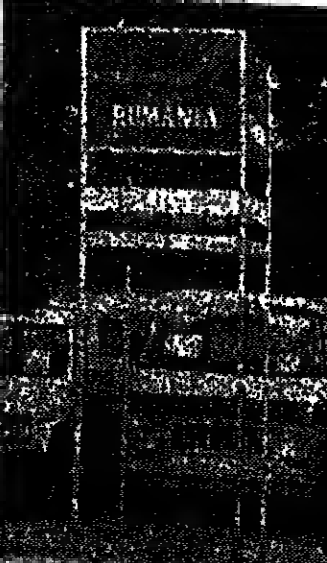
Enjoying great interest with

motives, front leaders, entrepreneurs, the technical success, the Romanian participation in the Sydney '85 fair was an opportunity to expand the commercial ties between the two countries; the main categories of goods rivaling the businessmen's attention included tractors, ball bearings, machine tools, chemicals, various consumer goods which were the object of export contracts.

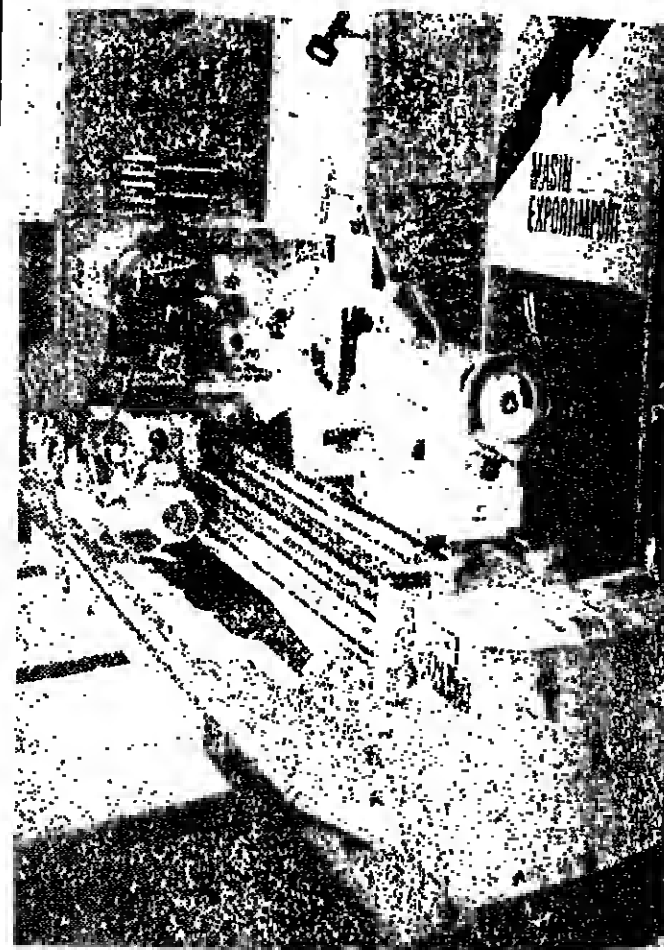
disposition in the Havana International Fair was a real success likely to open up new vistas for the Romanian-Cuban economic collaboration.

"This statement is backed

The photos feature aspects from the Romanian pavilions at the fairs of Sydney (top), Zagreb (centre) and Havana (bottom).



and only by the above-mentioned Fiat Metal and the favourable impression made by the Romanian pavilion, but also by the fact that during the event several valuable export contracts were concluded. Thus, in 1985 Industrialexport-Import will deliver to Cuba, among others, diesel engines, tipper trucks and tractors. In its turn, Electronum will sell on the Cuban market radio sets and in-plant equipment will deliver electronic elements. Electronum will also deliver electronic equipment and measuring apparatus to China and Romania will export cosmetics.



THE ZAGREB FAIR

The traditional commercial and cooperation relations between Romania and Yugoslavia, spurred by the frequent contacts between the leaders of the two parties and states and favoured by the geographical proximity of the two countries, by the many-sided development of their economies, contribute to the intensification of mutually rewarding trade relations.

In this context, as exchanges of ideas and information are indispensable for the identification of new ways and means of expanding the bilateral ties, Romanian and Yugoslav firms regularly attend the exhibitions mounted in Bucharest and Zagreb.

Continuing this tradition, eleven foreign trade enterprises represented Romania at the 1985 edition of the Zagreb fair. In the stands of the enterprises Electronum, Masinexport-Import, Tehnimport-export, Central National Automobile, Central National Agriculture, Technoexport, Chemimex, Dunaimport and Prodeport, a great variety of products were exhibited in the fields of electronics, electrical engineering, machine building, chemistry and petrochemistry, light and food industries. Also, the Yugoslav firms ACM Zagreb and Agrooprema presented the public, the Romanian ARO land re-

ver cars and tractors sold with great success in the Yugoslav market. As an example we mention that until the present, Agrooprema bought over 1,000 tractors from Romania.

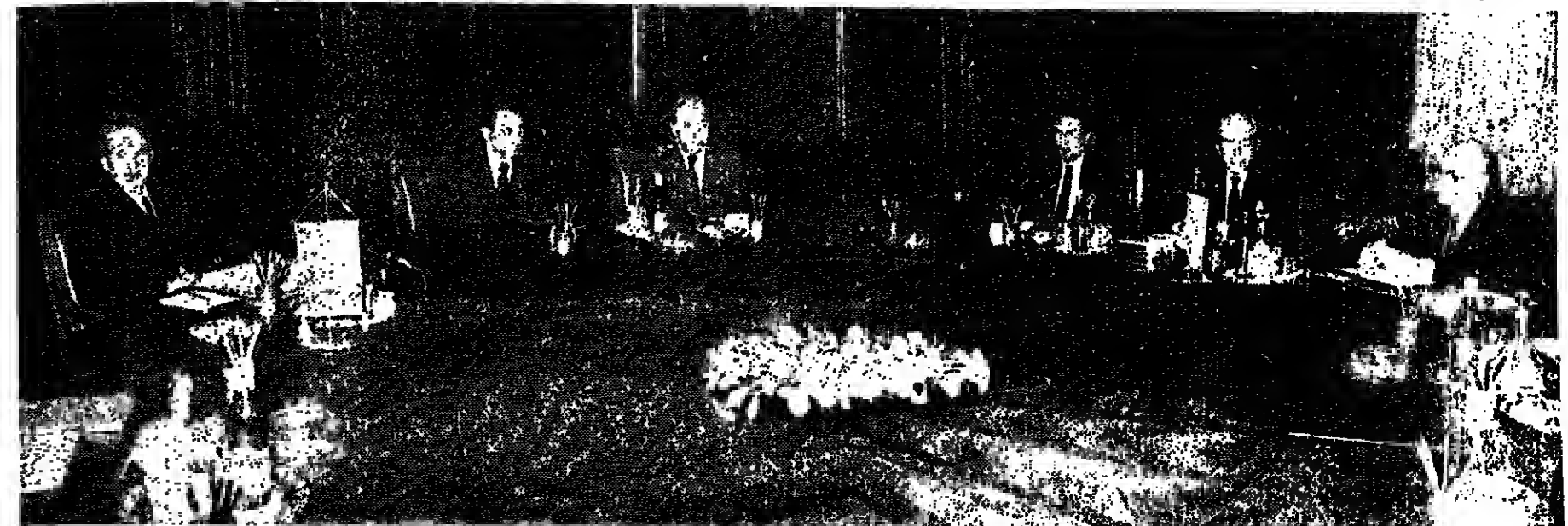


The quality, technicality and reliability of Romania's products made them be remanded by Yugoslav specialists who visited the Romanian stands. Among the products exhibited and items there were foodstuff, machinery, electrical installations, refrigerators and heating.

Naturally, the technical interest in the exhibition also drew the attention of business people, which was materialized in the conclusion of important export contracts of various types, such as: tractors, electrical products, paper, etc. to the Yugoslav market in 1985 and 1986.



TIES OF FRIENDSHIP AND COLLABORATION



(Cont. from p. 1)

her ways and possibilities of further developing ties (the Romanian-Yugoslav ties).

During the talks, opinions were exchanged on the development of bilateral relations on multiple planes. In that context, stress was laid on the positive course of the Romanian-Yugoslav ties, and it was assessed that the growing economic potential of Romania and Yugoslavia provided broad possibilities to expand cooperation in production and production specialization, cooperation in the technical, scientific, cultural and other domains, just as to increase and diversify trade.

In that respect, Nicolae Ceausescu and Ilija Buzdarevic declared that the members of the joint Romanian-Yugoslav governmental commission of economic cooperation examination tangible modalities of more, especially basing economic cooperation, in the spirit of the orientations and understandings reached at top level.

The Romanian-Yugoslav relations, just like a series of major international questions, were approached also in the addresses made at the official dinner offered in honour of the Yugoslav guest. In his address, the Romanian head of state stressed the highly significant role of the agreement on a 50-per cent reduction of strategic nuclear weapons to be completed as soon as possible. Furthermore, efforts should be stepped up to achieve a comprehensive disarmament programme leading to the elimination of nuclear weapons and the prohibition of nuclear war.

After mentioning the highly important role of the meetings and talks with Josip Brez Zito, with the other Yugoslav party and state leaders, in the development of these relations, the

President referred to the current official talks during which, he said, it was noted that there were many possibilities to further expand the political, economic and technical-scientific collaboration between the two countries.

Approaching the international issues, Romanian President said among other things:

"The situation in the world continues to be very serious and complex. Even though positive steps have been taken in the direction of disarmament and détente — chiefly as a result of the agreements on nuclear and shorter-range nuclear missiles that the Soviet Union and the United States signed — they are still small. The remaining huge quantities of nuclear weapons can destroy mankind several times over. Nuclear tests are going on and work is in progress on the so-called Star Wars project. Circumstances, under these circumstances, demand that we take the disarmament, nuclear disarmament first and foremost, the defence of the people's right to existence, in peace, in a free and dignified life are essential today. Everything possible must be done for the Soviet-American accord on the elimination of nuclear and shorter-range missiles to be fulfilled, and for the agreement on a 50-per cent reduction of strategic nuclear weapons to be completed as soon as possible.

Furthermore, efforts should be stepped up to achieve a comprehensive disarmament programme leading to the elimination of nuclear weapons and the prohibition of nuclear war.

participation in and taken action for the Vienna Conference on disarmament and cooperation to end the arms race, to ensure the security of the European people's interests in live in peace, to closely cooperate in all areas for the independent development of each one. The approach to problems should take today's realities into account — the development of the forces of production, of science, of culture. All people, whatever their social system should order their lives by taking these advances into account, look ahead, not back. It is in this spirit that we regard the question of European unity: a united Europe of free, independent nations, of peace and cooperation.

Romania works along with Yugoslavia with other states, to make the Balkans a zone of peace, cooperation and good neighbourliness, free of nuclear and chemical weapons and of foreign military bases. We also support the creation of such nuclear and chemical-free zones in Central Europe and other parts of the world.

Romania has steadfastly campaigned for the settlement of all conflicts and disputes by peaceful means. In the Middle East, Africa, Asia, Central America and other parts of the world — by peaceful means only, by way of negotiations.

In consideration of the deterioration of the world economic life, the steady erosion of the position of the developing countries — which, through a very unfair economic and financial system, actually finance the developed capitalist states — Romania takes the view that no international conference should be called to discuss underdevelopment, including the very large foreign debt of the developing countries.

We trust that the progressive, realistic forces, people everywhere, taking action in unity, can change the content of development, human disarmament, ensure a new, democratic policy, cooperation and peace, the speaker said.

An important contribution to these processes is made by Europe, on the basis of the principles established at Helsinki. Maybe more than ever before, it is Europe and all those living in it started and achieved even more resolutely the collaboration agreement, upon which as large as possible, by information in the economic, technical, technological scientific fields, as well as in that of human rights. And, of course, in parallel with the liberation from mutual argument, a substantial contribution should be made in conventional weaponry. We submit the unilateral step taken by the Soviet Union, which helps open this process. Allow us to note with satisfaction, on this occasion too, the closeness of the Yugoslav and Romanian points of view on the numerous problems of the world relations and of Europe which today too have been identified by our talks.

Stemming in the 21st century, the world will pass into a new age, and we express our hope that it will be much better for everyone, more lasting and stable than the previous ones. In order to be maintained, this positive evolution has to cover all fields of international relations and all regions of the world. This presupposes the responsible commitment of everyone to seeking solutions to all open problems, which constitute a permanent source of danger to world peace. I am referring especially to all latent hotbeds and crises, as well as the problematical of international economic relations. Global world relations cannot be established without settling one of the fundamental questions of the contemporary world — the difficult situation of a large number of developing countries. The conditioning of mankind's progress in general and of the settlement of the issues facing the developing countries, the former said, one, in particular, are realities which have to be taken into consideration.

The new processes at work in international relations and the prospects of development in the world are great challenges for all countries and political movements. Everyone in the world must grapple with these new times, by reexamining the conceptions and ways of action. That is why the anti-aligned movement, too, as a global independent factor of international politics, pursues to adjust its actions to the changing international situation.

In conclusion, Josip Buzdarevic said that the visit of the Romanian President to Yugoslavia and talks held in Belgrade will be a fresh stimulus for the population of the two countries to intensify their collaboration, to achieve a stable peace in the world, regardless of the differences which constitute another reality of our epoch. In all this we can and must contribute, for of a large number of sta-

les; this effort has resulted from the conviction that the relations of multifaceted collaboration and the bilateral ties, the collective and individual security are closely interconnected and that each process has to stimulate another process in its turn.

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LOW-CONTENT MINERAL RESOURCES

A NEW OUTLOOK ON MINERAL RESOURCES • AN ORIENTATION IMPOSED BY THE REQUIREMENTS OF ROMANIA'S ECONOMIC DEVELOPMENT • AN EXAM PASSED SUCCESSFULLY BY SCIENTIFIC RESEARCH AND INDUSTRY • A LONG-TERM POLICY REFERRED TO THE OBJECTIVE SITUATION OF THE NATIONAL MINERAL PATRIMONY • A ROMANIAN SCHOOL IN THE FIELD OF TECHNOLOGIES TURNING TO ACCOUNT LOW-GRADE ORES • DEVELOPMENT MOSTLY BASED ON HOME-GROWN RESOURCES

In the heart of the Apuseni Mountains, two mountains which were apparently determined to defy elumy were chopped down. The peaks of Căminuș (1,205 m) and Rugina (1,256 m) were shortened by a few scores of meters. And their altitudes kept on decreasing. Several scores of million tons of rock shattered into pieces by dynamite lifted the tops of the surrounding valleys. The mountain rock is removed and underneath lies an enormous deposit of copper ore. A low-grade deposit which nevertheless will provide copper for many decades to come. But in order to bring that copper to light, over 100 million tons of gangue has to be uncovered, transported and deposited in stockpiles.

The over 4,000 people who took to building the Copper Mining Works of Roșia Poieni were faced with a hardly accessible place (over 100 km of road had to be laid out in order to ensure access ways) and with difficult weather conditions: long winters with heavy and frequent snowfalls, fog, strong winds and torrential rains. Difficult questions had to be solved concerning the industrial construction and several technologies. Many machines and tools were tested and put to work here for the first time in Romania, as an outcome of the collaboration of many research institutes and machine engineering enterprises.

Now an immense amphitheatre opens between the Căminuș and Rugina Mountains: the Roșia Poieni Open-cut. The mountains have been moulded in steps and terraces providing conditions of safety for the mining works.

The Roșia Poieni mining works delivers copper concentrates. The ore extracted from the open-cut is processed by the preparation plant partially commissioned as early as 1984. This year, the neighbouring town of Zlatna saw the commissioning of a copper refining plant.

A NEW MAP OF MINERAL RESERVES

About 40 years ago economic geography guides and textbooks presented Romania as a country possessing almost no reserves of mineral substances. Was it an excessively optimistic outlook? Today we may incline to answer affirmatively, but then it was determined by the needs of the capitalist economy of the 1930s.

The development and diversification of the Romanian economy over the last decades have rapidly changed the out-

look on mineral riches. Soon, the already known deposits proved insufficient: Romania had to resort to imports in order to meet at least part of its need of mineral and energy raw materials. But that does not mean we should fall into the other extreme. Romania is definitely not poor in mineral resources! After making a thorough investigation of the country's subsoil, geologists consider that Romania is a country aboun-

Does the metal lying in the womb of the mountain deserve such efforts?

Was it really worth while opening a mining exploitation in that place taking into account the enormous difficulties which had to be overcome?

Yes, we can answer affirmatively with all conviction. For the country's economy copper is as valuable as gold.

The spiralling development of certain high-tech branches such as the power and the electronic industry demands an increasingly larger quantity of copper. Irreplaceable in the structure of many machines and instruments, copper gets more precious and desperately sought by the home. The growing need of copper in the world, its inclusion on the list of strategic materials by a series of developed countries have caused its price to shoot up, making it increasingly dear and hard to find.

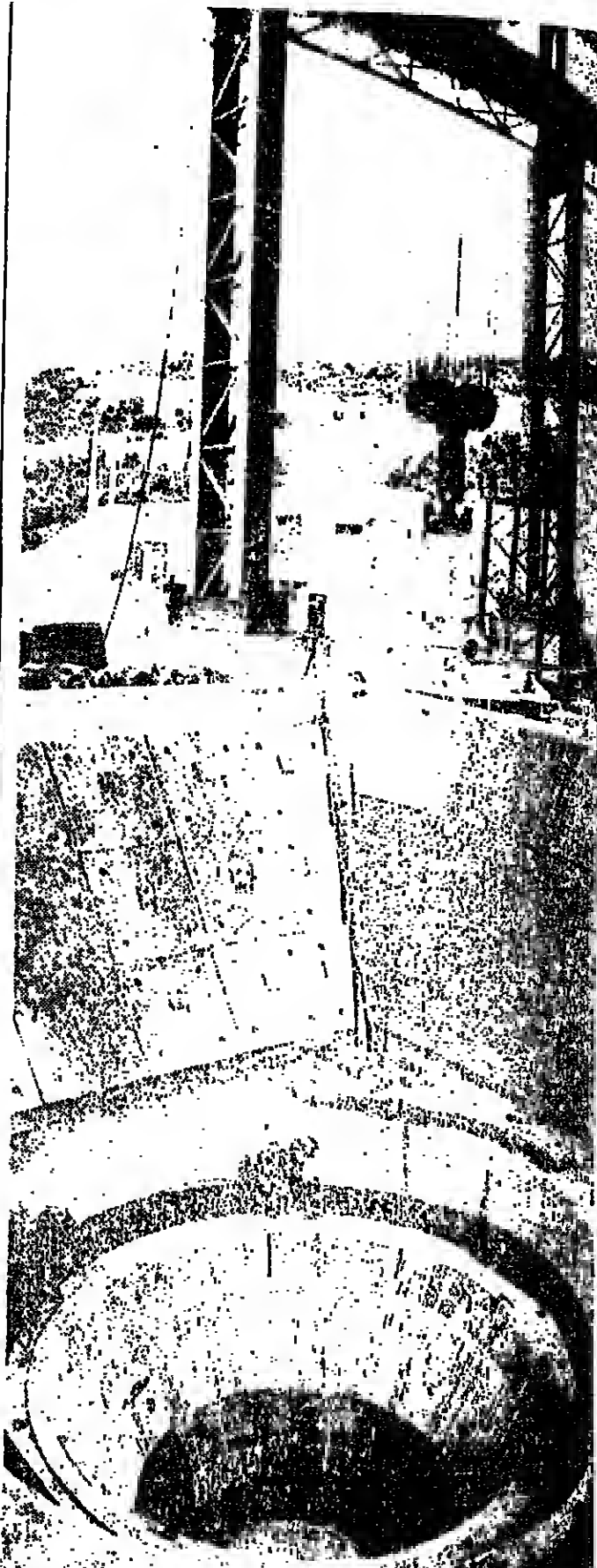
The daring project of Roșia Poieni which in a few years became the copper mining works of Roșia Poieni, has been imposed by the requirements of development. And it proved entirely feasible with the forces possessed by the country's scientific research and industry.

DOSSIER

ing in low-grade ores. It has a multitude of noteworthy reserves, yet of a rather modest quality (this is the case of coal) or with scarce contents of metals. In fact this is the consequence of a prolonged exploitation (over 100 years in the case of oil) which has worn down deposits.

Even if their exploitation is carried out to more difficult geological and mining conditions, requiring bigger investments, it is far more advantageous than the import of such materials whose price continues to climb.

The age of cheap industrial raw materials is over. Everywhere in the world high-grade mineral reserves (specialties called them "ideal") with a large



concentration of useful elements, located in accessible areas, which require only small transport expenses, less manpower and military equipment and preparation technologies have already been assaulted and mostly exhausted.

The natural factors determining the economic efficiency of exploitation have worsened. Deposits are growing bigger, layers and veins are getting thicker, contents of useful elements weaker, deposits are al-

located in hardly accessible areas. Consequently, extraction and transportation technologies become increasingly more complicated.

The photos were taken at Roșia Poieni: assembly of the ore crusher (top) and the copper open-cut (bottom).

SUSPENDED CONVEYOR

A new type of conveyor belt has been introduced (for the first time in Romania) and is being generalized in the galleries of the Ciampulung Mining Enterprise. It is the patented invention of engineer Teo Juhulescu, one of the enterprise's experts.

The conveyor belt has a rigid structure consisting of three 3-m-long metallic modules whose component elements are welded together. Unlike the ordinary type, it is suspended from the ceiling of the gallery. Below, materials can be stored and people can move without restriction. The modules are kept coupled together and the equipment is kept in operation continuously, until the rubber belt needs to be replaced. Through an ingenious roller system, the belt is automatically centred and the risk of derailment is reduced. The modular structure makes it easier to shorten the conveyance circuit. Substantial economies of manual labour and spare parts are thus made, while the volume of maintenance and overhauling operations is cut.

The abundance and low price of mineral raw materials did little to stimulate the thinking and investment efforts of searching and finding in account "difficult" deposits.

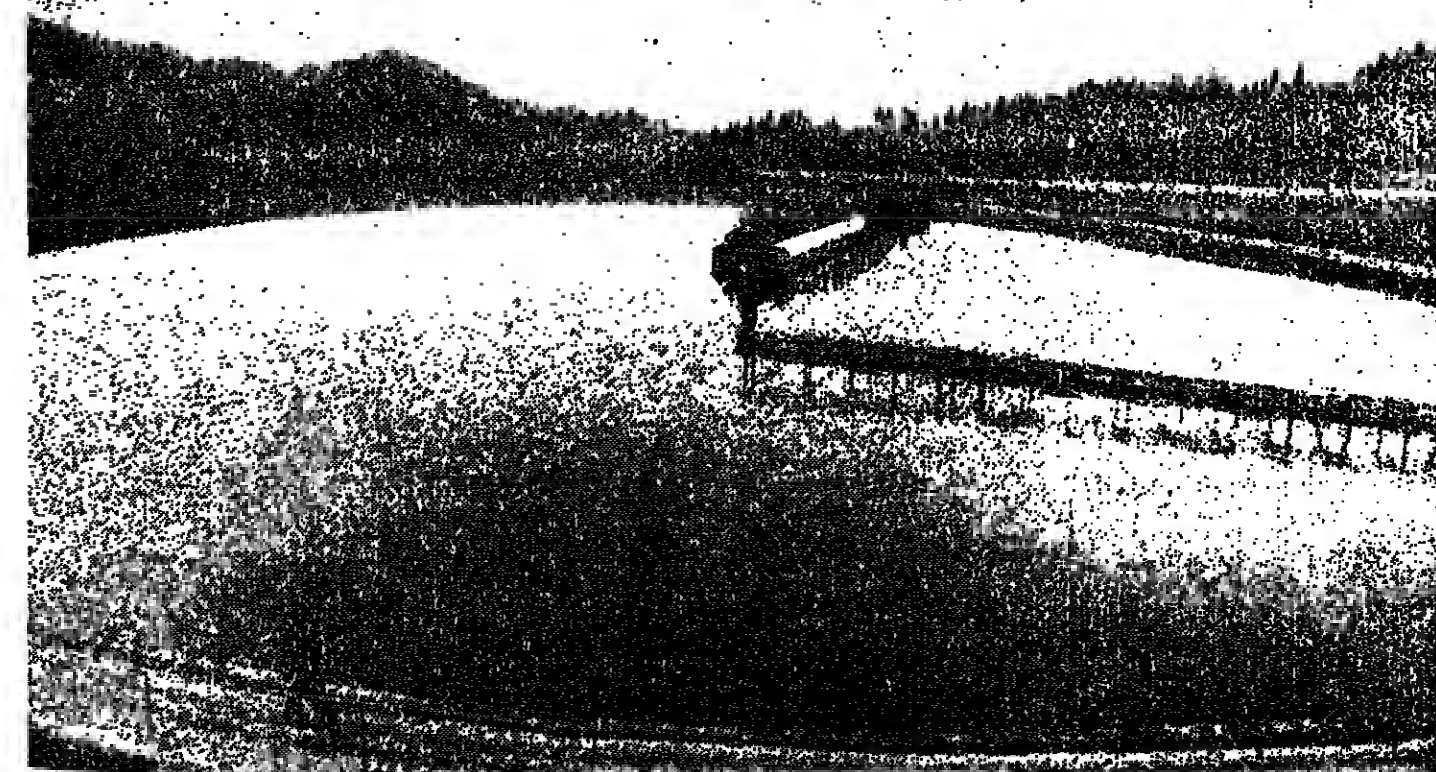
But the waste of high-grade ores has caused a reversion in exigencies, much for the benefit of previously neglected exploitable ores.

Deposits "abandoned" non-economic and steel two or three decades ago are now reassessed. For instance, exploitable is considered to be also a copper ore with a content of only 0.4 per cent in subsoil and of 0.25 per cent in open-pit. In the past, the world average value used to be of 3 m to 5 per cent and what was called below 25 per cent never reached the list of reserves.

The passage to the use of low-grade and hardly accessible reserves, as well as searching

for the settlement of multiple technical and economic problems raised by their superior capitalization demand great scientific and financial efforts. "Proving" costs for the exploitation of the existing mineral resources have grown. A several-times increase has been recorded both by the prices of reserves for the discovery of new deposits and by the investments required by updated technologies able to turn them in account.

The rise in the price of mineral resources demands the adoption of new conceptions and practices in their exploitation and usage. All states have to adapt themselves to this irreversible evolution in establishing the strategy of their economic growth and focus their scientific and financial efforts adequately and in due time.



A BETTER CAPITALIZATION

Romanians toyed with the idea of turning to account low-grade ores for quite a while. The economic policy guidelines for this field, materialized throughout this decade, had been drawn up before. In 1972-1973, when the first symptoms of the world crisis of raw materials and energy were felt, geological researches in some areas of this kind started as early as 1953-1960. At Moldova Nouă, in Buzău, in the area of the Buzău Valley, a low concentration of copper - generally called "bananite" - were discovered. During geological drillings made in 1963 in order to identify copper deposits with a content of 0.3 up to 1 per cent (then rated as a minimal percentage) to justify the exploitation. At that moment, the poor copper ores of Moldova Nouă held out no significant

profitable prospect as a mining investment. But taking into consideration the huge quantity, as well as the fact that the respective ores had a constant content of copper, a special program was worked out for the geological and technological research into such ores.

And before long, in 1967-1968, time was right for their capitalization too.

In the 1960s, the mines of Moldova Nouă were not even close to facing an apparently unsolvable situation: polymetallic ores with a fine interlocking (intertwined) with glances, chalcocite with pyrite) extracted from the third area of the deposit could not be prepared. The mining unit contacted many prestigious foreign firms but none of them was able to come up with an adequate technology. The best

solution was found here, in Romania: copper should be taken out before hand and sold. Researches materialized into an absolutely new technology, it opened as no invention held here and abroad: the selective-collective flotation of float, concentrate polymetallic non-ferrous ores. The quality of non-ferrous metals increased. The efficiency of the metallic ore extraction increased. First of all, the technology was applied at Moldova Nouă and at Buzău. But it opened broad prospects also for the capitalization of other deposits.

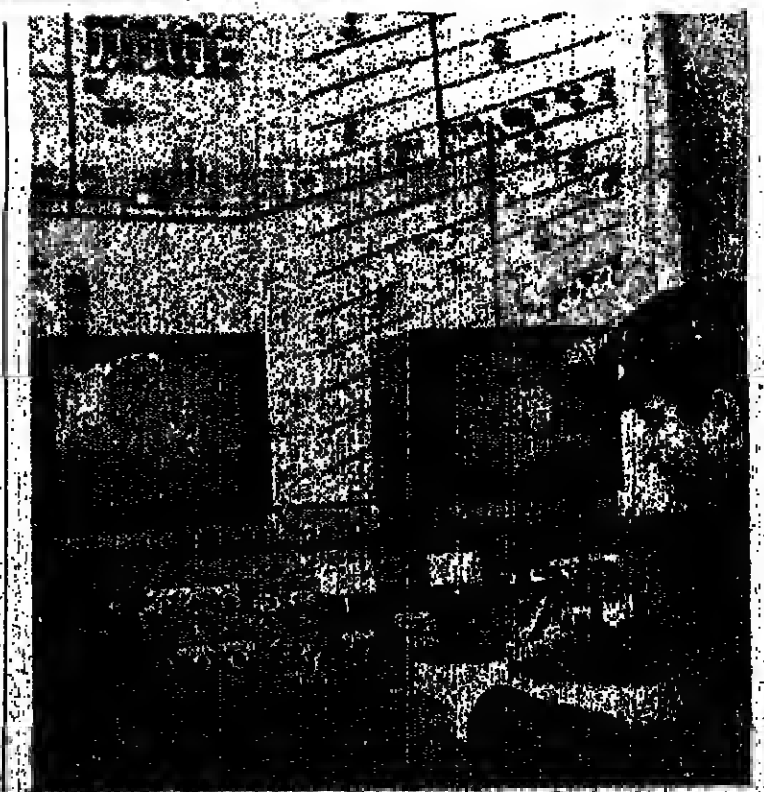
In 1967-1968 technologies for the preparation of the Bananite of Moldova Nouă were developed. Four variants were worked out for four different concentrations of useful substances. The technology proved profitable even for 0.3 per cent in the conditions of the then lowest cost of a ton of copper.

In the 30 years which have passed, a school with a rich experience in the field of low-grade ores has been developed in Romania.

COKING PIT COAL

The Bala Nouă Mining Enterprise has started exploiting a coking pit coal deposit. Located in south-western Romania, in Mehedinți county, the Bala Nouă coalfield was known only for the extraction of fuel coal and of non-metalliferous ores. The only area in Romania from which coking pit coal was extracted was the Jiu Valley.

The opening of the new pit coal mines fits in line with the Romanian policy of stepping up the research and capitalization of all resources, the low-grade or less accessible ones included. On the other hand, the breathtaking development of the Romanian iron-and-steel industry has brought about growing needs for raw materials in coke-producing plants.



Photos: On page 3, views from the copper ore preparation plant (top) and from the copper open-cut (center) respectively at work at Moldova Nouă, Buzău. (bottom). On page 4, the Moldova Nouă open-cut (top, left); the Roșia Poieni open-cut (top, left and bottom); the Zlatna Metallurgical Enterprise of Non-Ferrous Metals (center).

CRITERIA OF EFFICIENCY

In order to justify the introduction of a low-grade ore in the economic circuit, in order to exploit it in conditions of economic efficiency, the total costs of extraction and propagation must not exceed the economic value of a ton of metal in a concentrate. The geological feasibility, the feasibility of the mining extraction and the technological feasibility have all to be ensured at the same time. Let us try to explain briefly what these criteria stand for.

• The volume of geological reserves has to be large enough to ensure several hundred million tons. Thus, the poor content is counteracted by a large pro-

ductivity volume.

• The deposit should lie as close to the surface as possible in order to be exploited in large quantities with large-capacity equipment. An open-pit exploitation provides lower production costs and a safer, more productive than a pit.

• Technologies for the preparation and concentration of metalliferous minerals have to be devised in due time, allowing of the extraction of useful substances from the ore in the best conditions, as well as of their recovery with the highest possible efficiency. Account is taken not only of the extraction of a single element, but of

several or all useful elements contained in that deposit. Thus, several other, discarded metals accompanying them.

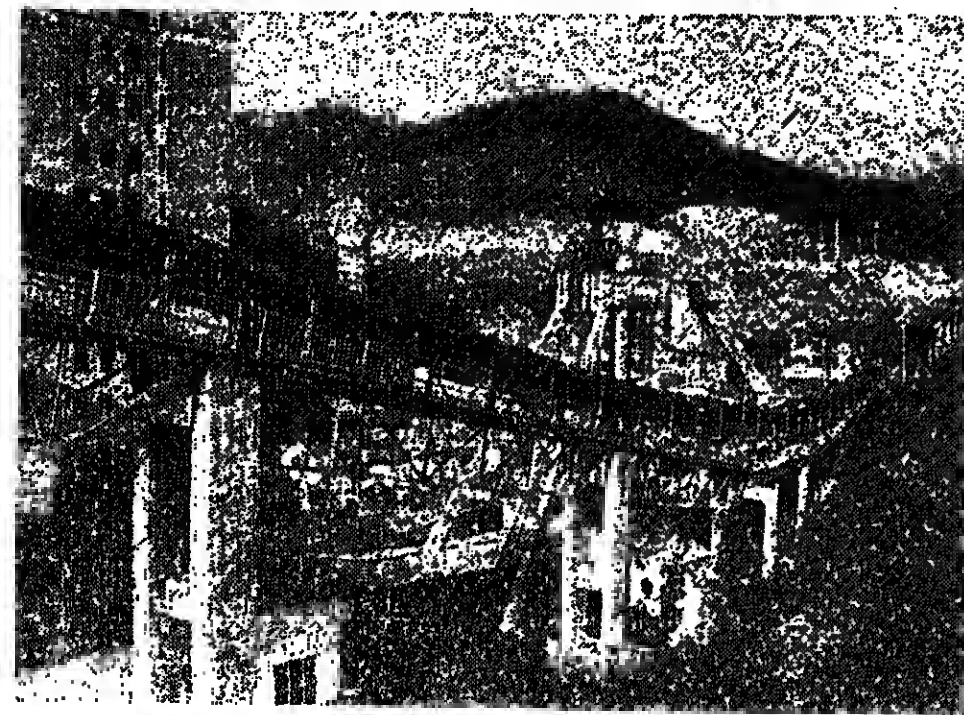
Technological researches undertaken in an integrated conception (through a close collaboration of all compartments — geology, mining, preparation and metallurgy) pave the way for the industrialization of ores. The works which exploit large low-grade deposits have an annual output of millions of tons of ore and the proportion is carried out in large-scale plants provided with technological lines of 5,000-7,000 t daily.

Considerable sums have been

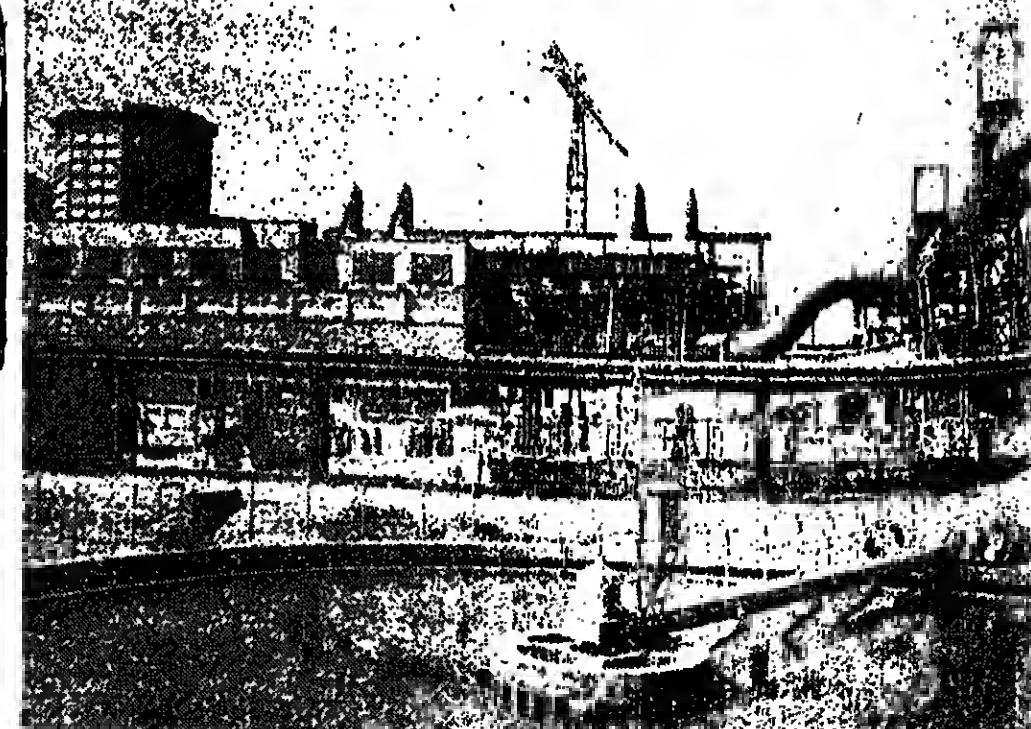
GIGANTIC EXCAVATOR

At the Hunlechiaș mine in the Mehedinți coalfield, a new gigantic excavator belonging to the family of bucket-wheel excavators built by the Romanian Industry for open-pit mines has started being tested. It is the fourth machine of the kind equipping the Mehedinți coalfield — the youngest in this country. A few years ago, the first Romanian excavator of the kind — ERG 1400 — was put in service here.

The Mehedinți coalfield has been a true testing-ground for this constructing plant. And, through these suggestions for improving the machines and enhancing their reliability, the assemblers, engineers and foremen who set these plants going can be considered co-authors of this modern Romanian mining machine. The new member in the Hunlechiaș open-pit excavator family has included all these suggestions in its construction.



Until not long ago, lignite layers under two metres thick would not be exploited. In keeping with designs worked out by the Mining Research and Design Institute in Craiova, the Mining Equipment Enterprise at Filipești de Pădure has built the first two mechanized plants for thin lignite layers (ranging between 1.4 and 2.2 m) in two constructive variants. In the CMA-PL variant, such a mechanized plant has been mounted in the foyer of No. 6 Leorda mine of the Motru mining works, where it successfully replaces the CMA-3 mining machine. The other variant — CMA-2T — has yielded good results at the Zeguzani mine in the Mehedinți coalfield, being perfectly adapted to the specific conditions of ore deposits there. At present, CMA-2T is introduced at the Sinerș mine of the Anina Mining works.



marked in Romania for the discovery and geological analysis of low-grade deposits. Answering a policy commandment of the national economy, specialists have found and keep on searching various solutions to enable to use areas in better economic conditions. They create equipment and technologies able to counterbalance the effects of increasingly bad ore conditions. The requirements of the national economy have determined

ed the elaboration of an economic policy in the field of minerals, a long-term not conjunctive policy addressing the objective situation of the national mineral riches. Through its decisions, it facilitates the introduction of low-grade ores in the economic circuit. With every passing year the native mineral substances augment their contribution to meeting the national needs. Certain needs have already been met.

All needs are to be met in the coming years, creating new export possibilities for our useful mineral substances. In this way too, Romania will be a fundamental member of the world economy, as set by the Ninth Congress of the Romanian Communist Party: to develop mainly by means of its own resources.

In parallel with the expansion of the mechanized digging of mine galleries with the help of advancing combine machines, means of mechanizing the assembly of gallery supports — first in metal arches and reinforced concrete prefabs — have been introduced at the Jiu Valley and Motru coalfields. The machines developed to this end have a hoisting force of 500 and 1,000 kg.

Recently, a gauge dumping machine has been introduced as a national first at the Lupeni open-pit of the Motru mining works. The machine, having a 270-m diameter, has already yielded good results. The dumping machine used in open-pit so far had a length of 40 m long arm.

The introduction of this machine, by 7 km the distance of which is covered by the conveyor, has resulted in a reduction of the cost of transportation and in lower expenses.

For a few months now, at the Filipești de Pădure mine (the Filipești de Pădure mine), the supporting face with the conveyor galleries have been mechanized. The adjustment of certain of the conveyor galleries to the new dumping machine has resulted in large blocks of ore.

HOLIDAYS IN A WINTER SCENERY

Over December 28, 1988 — January 3, "Winter Tree" celebrations will be organized in kindergartens, schools, enterprises, institutions, forming units, cooperative forms, children's homes, children health-care units, as well as in "Song to Romania" culture and creation centres. For this traditional celebration, on President

Nicolae Ceaușescu's proposal adopted by the Executive Political Committee on December 9, the mass and public organizations have earmarked substantial funds. To the same end, the local women's organization and the UCECOM units have created clothing items and various other objects.

- The funds allotted from the mass and public organizations' own incomes amount to 265,000,000 lei, by over two million more than last year.
- The local women's organizations and the UCECOM units have achieved through voluntary work gifts worth 6,320,000 lei.
- The funds allotted and the gifts will benefit some 4,000,000 children.
- On the traditional "Winter Tree" celebration, special cultural-artistic programmes will be staged.
- In Bucharest and in county seats "Children's Towns" will be set up. Carnivals will also be organized.

The county youth and children organizations, together with school insuperatives, will provide, on a local plane, for the useful and pleasant spending of the pupils' and students' winter holidays. With the support of people's councils, real and training camps, holiday clubs and trips will be organized and sports contests will be held as part of the winter stage of the District sports competition.

In the period preceding the "Winter Tree" celebration, exhibitions will be mounted dis-

playing the most valuable works achieved by children — drawings, paintings, sculptures, black-and-white —, and contests of songs and poems, particularly and various other cultural-educational activities will be organized.

The traditions and activities related to the "Winter Tree" celebration once again reflect the concern with raising and educating the country's youngest generations, with providing all Romania's children with every better living and learning conditions.

LAST-MINUTE NEWS

We have learned from organizers that:

In Izvora Moreșului, Pirla Reș and Ciompingu Moldovenești resorts, skiing lessons will be offered over December 17, 1988-February 28, 1989 by instructors certified by the Romanian Skiing and Skiing Federation. Both young people from Romania and those coming from abroad can enroll in these courses which last seven days each. Each student of lessons ends with a competition. The top three players will be awarded prizes. The others will be happy that they can ski and receive the DTT badge.

Natural skating rinks will be created during the winter holidays, weather permitting (so far, the signs are encouraging).

A special camp will simultaneously be staged at the Ciompingu Moldovenești complex, which will schedule competitions in the main season sports: alpine skiing, cross-country skiing, biathlon.

Each resort will feature its own special artistic and discotheque programmes, and the traditional youth's New Year's Eve parties.



A NOVELTY FOR HIGH SCHOOLERS

A holiday camp for high school pupils is due to be opened at Câmpulung, Dinchevița county this year. We were informed by Gabriela Pohoșă, from the tourism department of the Central Committee of the Union of Communist Youth.

The new camp, endowed with the adequate equipment for a winter sport, will be able to host two batches of 400 pupils each. The campers were recruited from all over the country on the basis of their results in school contests by subjects and in the pupils' reviews of scientific papers.

They are expected to hold heated debates on controversial scientific themes for which they have already shown real aptitudes.

Similar camps will be organized in parallel in the other counties, too.

Moreover, holiday clubs will be opened in high schools and cultural establishments.



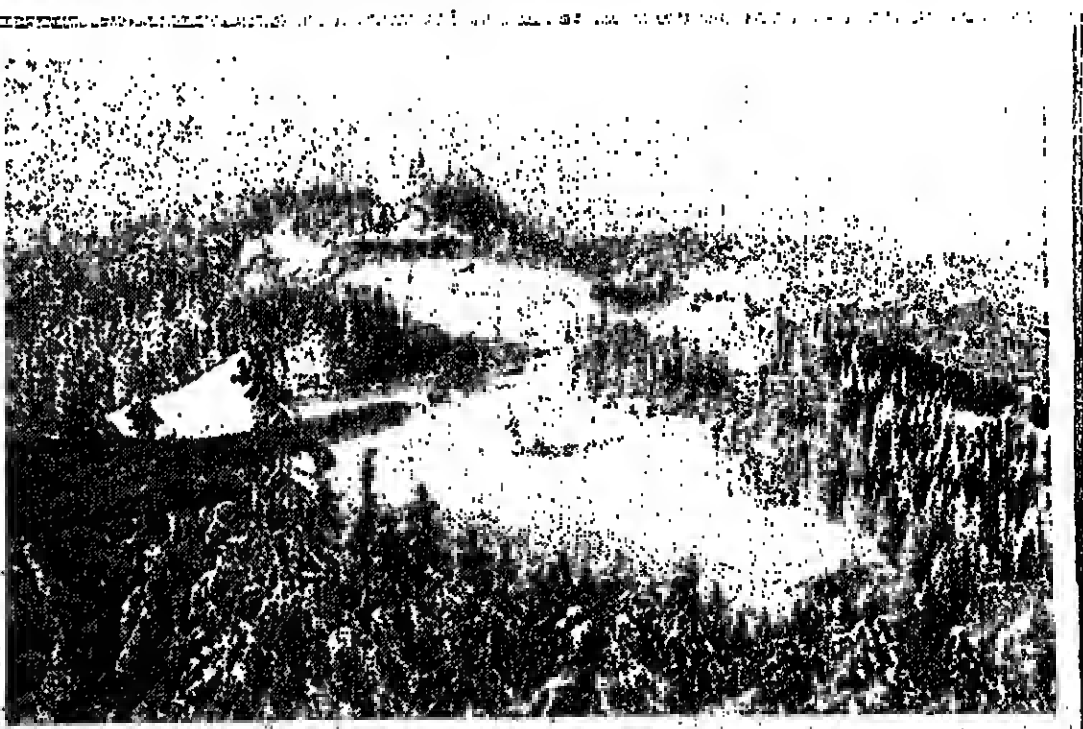
VOINEASA AND THE CHILDREN

Voineasa resort in the Ialova Mountains (Southern Carpathians) has recently become a true host for holidaying children.

As professor Iulian Gălbeneț, commission head within the National Council of the Pioneer Organization, told us, Voineasa will be this winter (on a centre for the all-county telecamping camp. For this purpose electronic computers and the necessary programmes have been acquired for a large number

of children interested in this field. A sports camp, "Stymph Hopelids", will exist in the same resort with an eye to the future championships in Romania.

A series of winter traditions and customs is due to be staged at Voineasa during this period. More than 1,200 children will take part in these national activities.



LAST-MINUTE NEWS

The children's holiday camps in all Romanian mountains resorts will comprise some 60,000 schoolchildren under 14.

During the winter holidays, camps by various subjects of study will be organized. Apart from specific winter recreational activities the children in these camps — who are the best at the respective subjects — will be given additional training with a view to their participation in the higher phases of the mathematics, physics, chemistry, Romanian language and literature, history, etc. school contests. Very much as in past years, the future winners of international school contests will probably be selected from among these children.

Two hundred thousand children will go on trips to the Carpathian Valley and other mountain resorts.

Holiday clubs will be opened in all general schools. Their programmes, drawn up according to the children's preferences, expressed in advance, include many attractive (cultural, scientific, artistic, athletic, etc.) and entertaining activities.

In the holiday clubs organized at the Palace of Pioneers and Homeless, Pioneers in Bucharest, children will work on their own projects.

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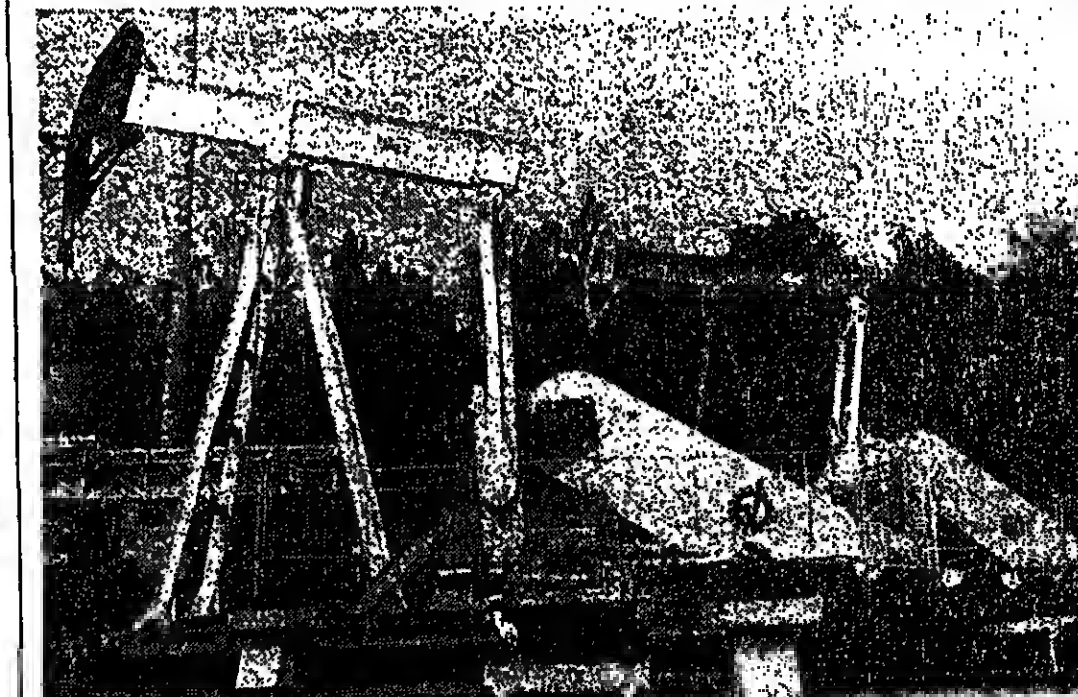
allel tanks (diam. 1,200—3,100) ● waste water tanks (diam. 1,200—2,000 mm) ● stainless steel pre-heaters (diam. 200—350 mm) ● horizontal and vertical base heating boilers with 2—4 passages (diam. 1,000—1,500 mm).

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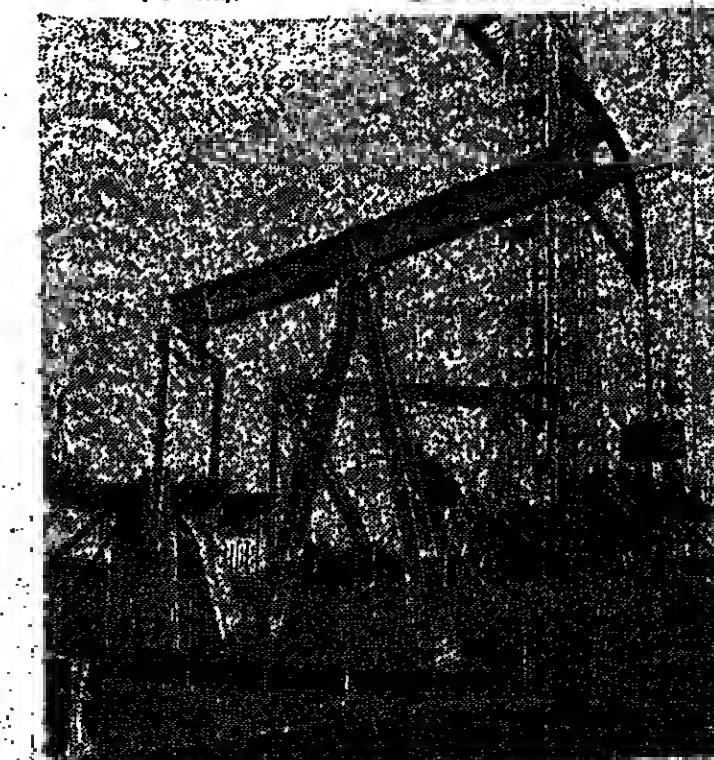
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1—25 cu.m.) ● air tanks for 5.10 and 16 atm (diam. 1,000—2,000 mm) ● 1200 t horizontal and vertical tanks (diam. 1,200—3,400

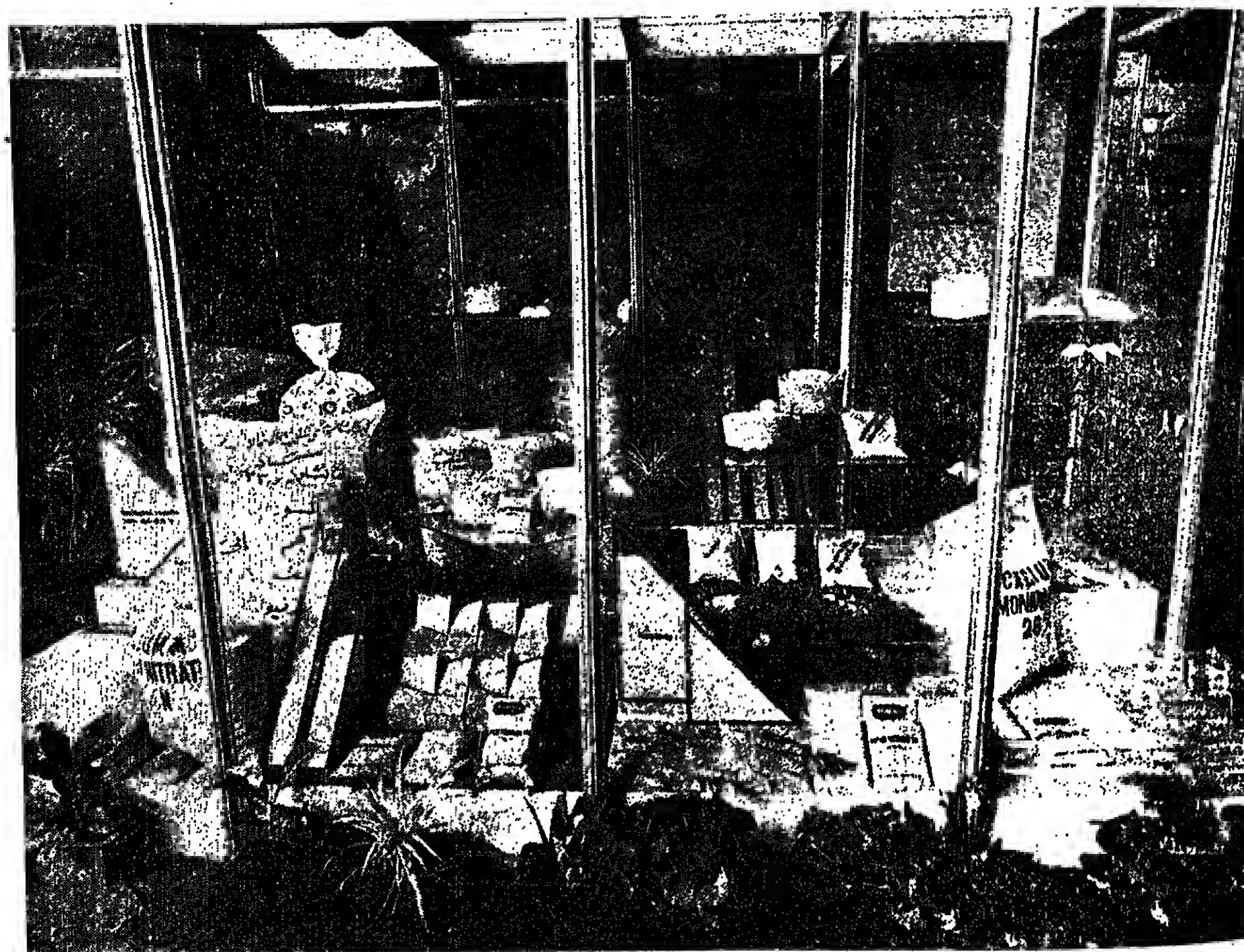
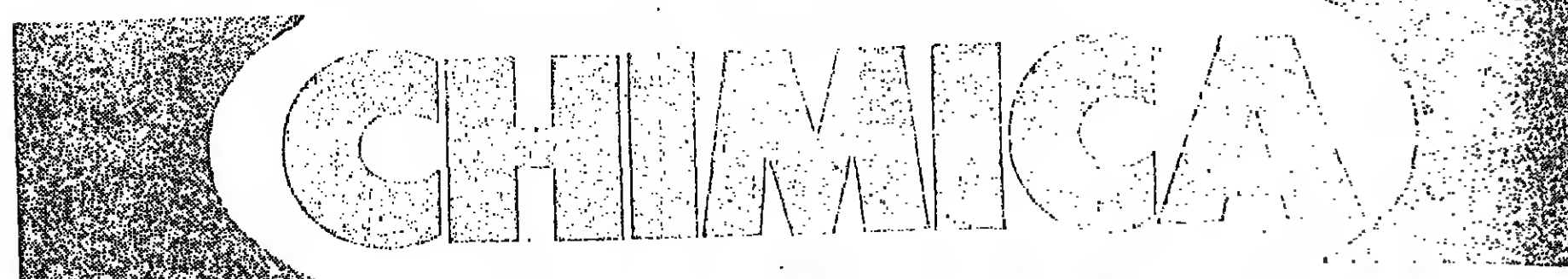


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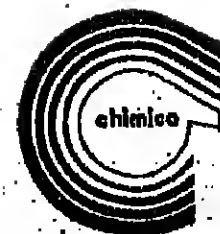
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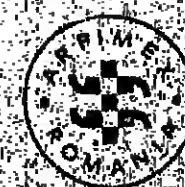
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ment, teletransmission and data processing equipment, machine tools, control equipment, automated testing equipment.

Also on offer are personal installations and equipment as well as turn-key deliveries. Increasing are the deliveries to countries such as the USSR, Egypt, the GDR, Czechoslovakia, Iran, Iraq, Bulgaria.

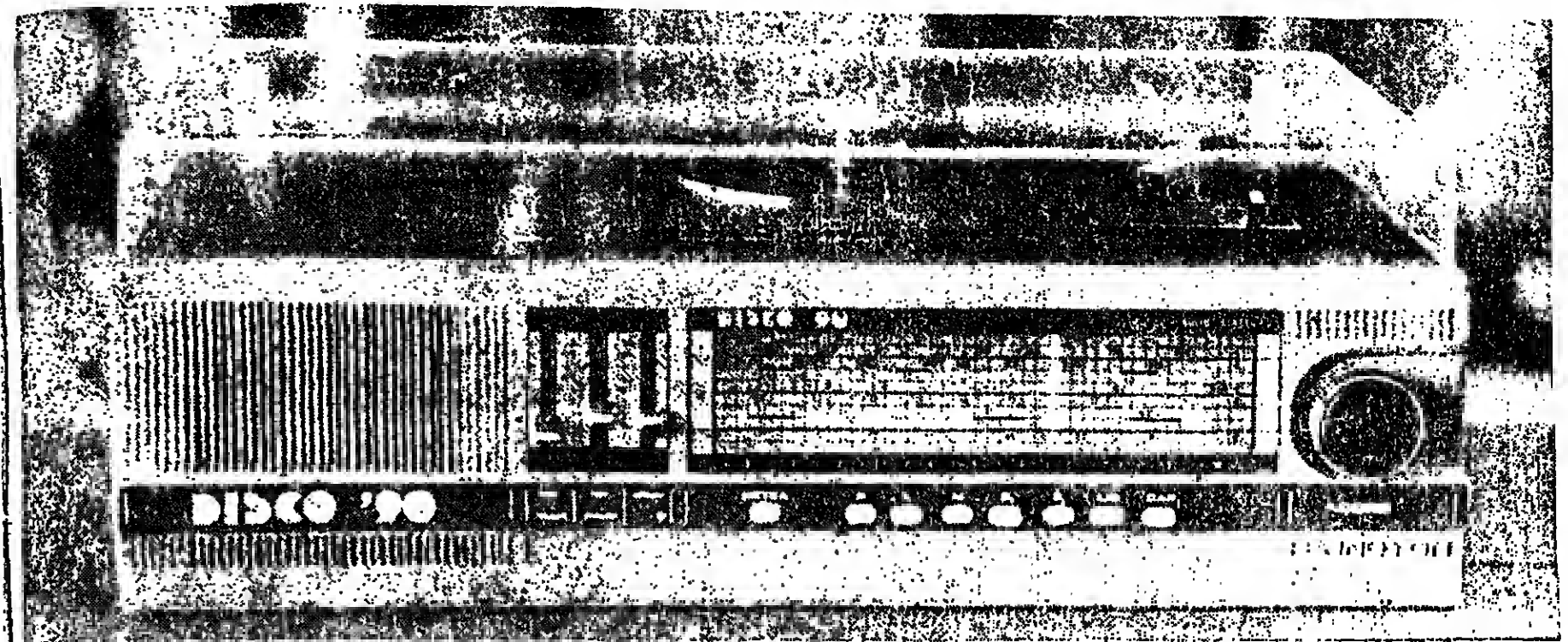
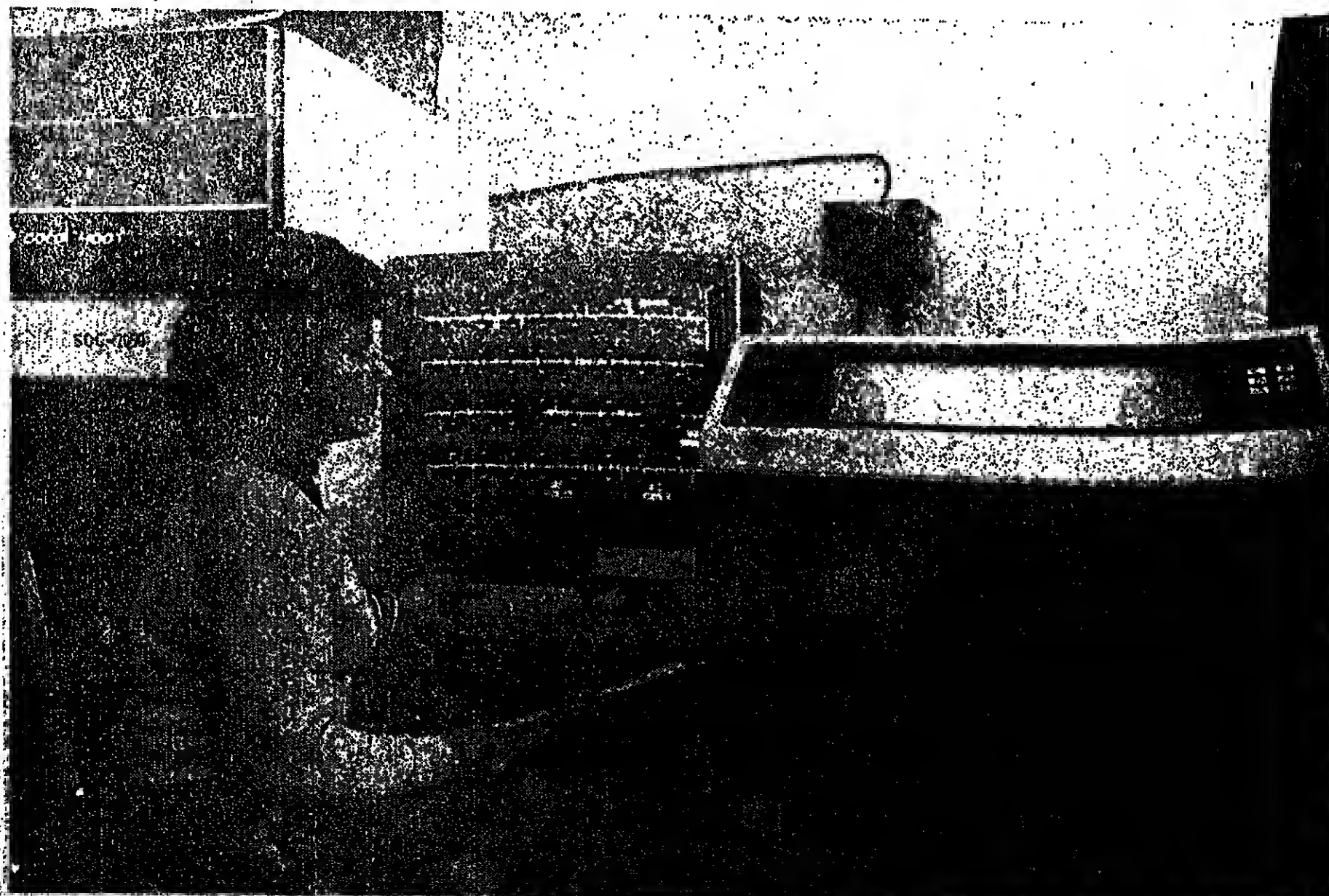
- Computer technology equipment such as: medium-capacity computers, minicomputers, microcomputers, personal computers, graphical systems, invoicing and bookkeeping machines, peripheral equipment. These products are exported to People's China, Czechoslovakia, the USSR, the GDR, Switzerland, Austria, West Germany, the USA.

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Supplied to the USSR are adjustable drives for machine tools, automatic telephone exchanges, computer technology, while that country exports to Romania electronic components, technological equipment

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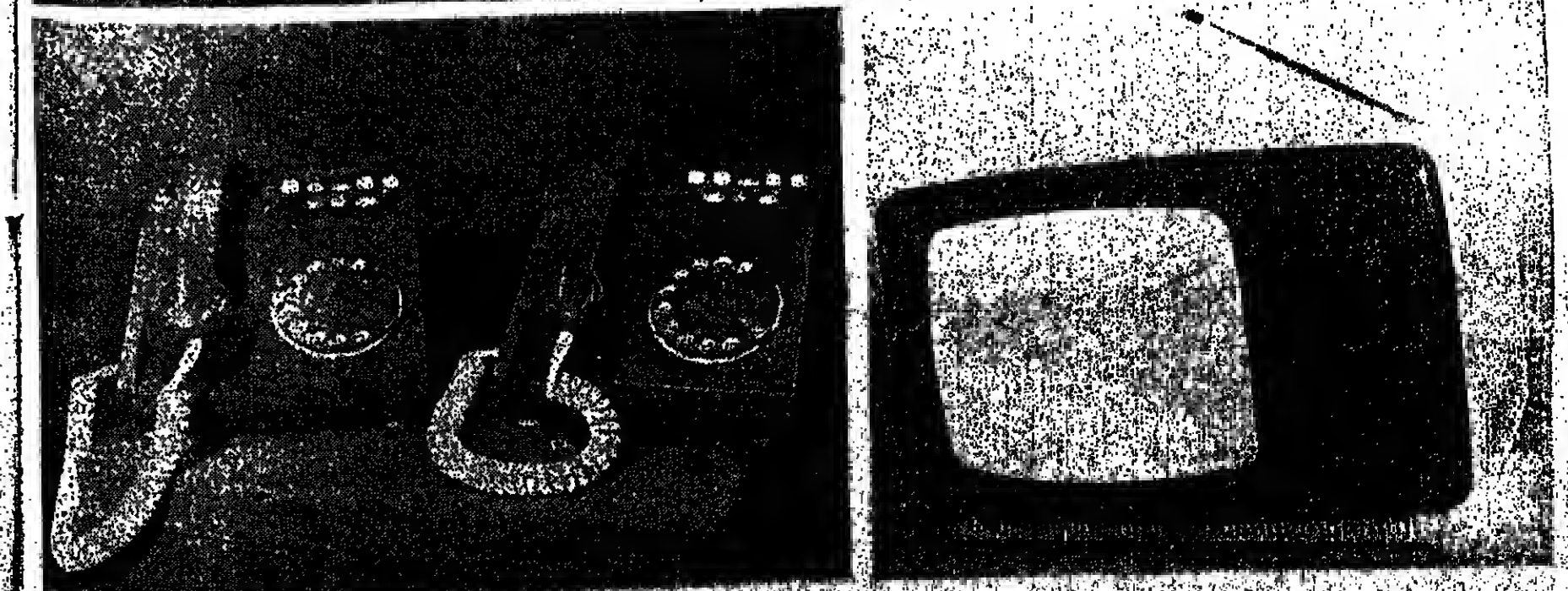
The collaboration with the Soviet foreign trade enterprises also accounts for the cooperation in production, that is Soviet electronic components are used in manufacturing electrical drives, computer technology equipment and automated telephone exchanges to be delivered to the USSR. At the same time very important is the ob-

servance of all delivery dates, especially as concerns the electronic components which are vital to the rhythmic realization of the equipment production plan.

According to annual mutual exchange stipulations, the volume of the exchanges between ELECTRONUM and the Soviet foreign trade enterprises is set to grow every year.

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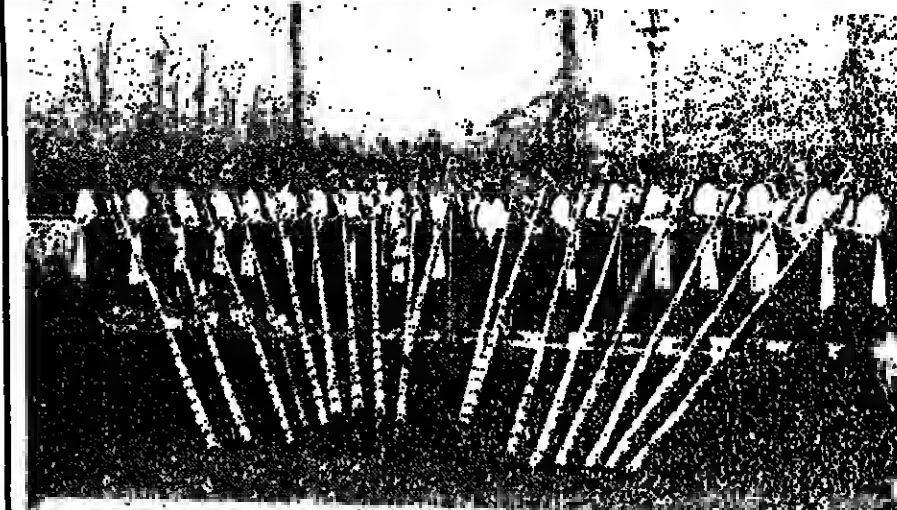
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"SONG TO ROMANIA"

The seventh Song to Romania National Festival mass-wide stage is drawing to an end this month. Since October 1987, the mass phase has offered a stimulating framework for the assertion of new ideas, for the promotion of original literary and artistic creation, of scientific research, regaining a permanent development and diversification of the content and form of the political-educational, scientific, technical and cultural-artistic work in villages and towns. As part of the mass stage, all counties, economic units and cultural establishments have organized debates, exchanges of experience, exhibitions, symposiums, meetings with specialists in production, laying stress on the expansion of initiatives, on scientific and technical creation.

During the first stage of the ongoing edition the number of artistic ensembles has risen substantially, bringing a telling proof of the climate of creative emulation generated by the festival. Presently, over 231,000 artistic formations and workshops are taking part in the festival, engaging over five million participants. (Photo right)



CHALET FOR TRIPPERS

Sited at an altitude of approximately 1,500 m, the Polana Izvorcelor chalet of the Buregi Massif is a well-served stop-over for any tourist after two hours' climbing on mountain paths. Moreover, it can accommodate travellers for a longer period. A delightful, picturesque sight providing also a silent cure of quiet and cooled air. (Photo right)



CLUJ-NAPOCA PREMIERES

The National Theatre of Cluj-Napoca played host to the premiere of Shakespeare's *Antony and Cleopatra*. A dense and lively show, marked by the virtuosity of the stage director, actors and scene painter. Stage director Mihai Mănușu's sense of grandeur and his expression of powerful, long tensions has inspired a

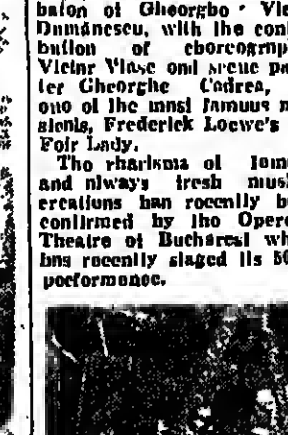
lively, exciting rhythm, full of suspense. Actors Anton Tatu (playing Anthony) and Gina Patrîchi (Cleopatra), the latter coming from the Lucie Sturdza National Theatre in Bucharest, were depicted by the local press as the ideal couple for the play. The show had the unique chance of bringing together scene painter Mihai

Mădăruș, costume designer Nadia Brîmbuș and composer Ion Ilieș who created a suggestive, multi-layered, with highly effective odd sounds. As if to confirm its rich and long-standing tradition the Romanian Opera of Cluj-Napoca mounted a highly successful show directed by George Zămbrescu, under the baton of Gheorghe Victor Dumăneșcu, with the contribution of choreographer Victor Vîlcu and scene painter Gheorghe Codrea, of one of the most famous studios, Frederick Loewe's My Fair Lady.



Projecto plinote (Planted Projects) is a book recently released by Alexandru Mînușu and Alexandru Ilieș, two admirers of outer space, who dedicate this book to young readers; "To our children who will undoubtedly dream of and work on projects imagined by this book in the following century" of the human civilization. The stories are accompanied by an original glossary of science fiction terms.

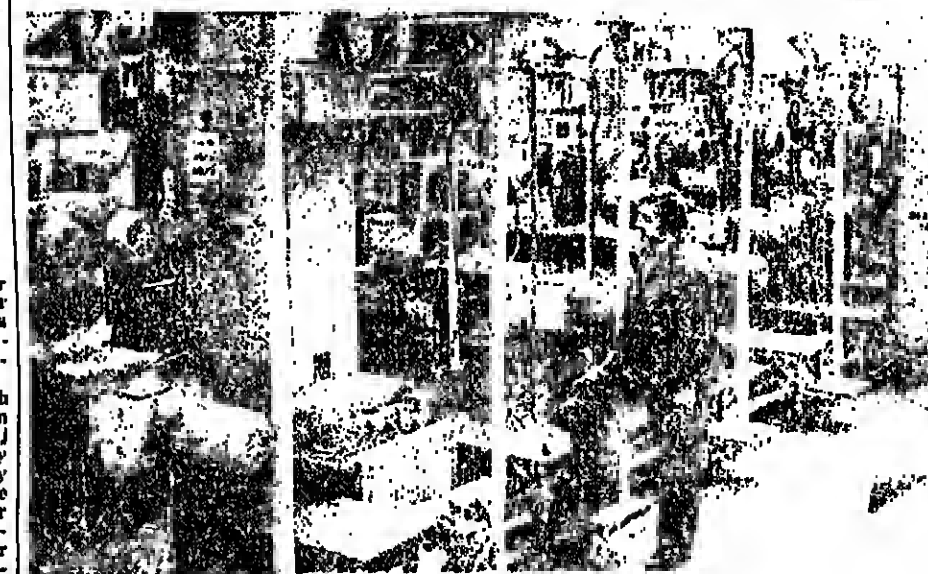
A trimestrial review of Romanian Literature, Manuscriptum (the latest issue, no. 3, in 1988) devotes a large space to literary documents concerning the Great Union of 1918, authored by Samuel Micu, Vasile Măruș, Samuel Micu, Vasile Măruș, and Onilice Ghilic. The "Contemporary Achievements" section features new posthumous works by poets Nicolae Labiș and Nichita Stănescu.



The charisma of legends and always fresh musical creations have recently been confirmed by the Opera Theatre of Bucharest which has recently staged its 500th performance.

HIGH TECHNOLOGY

The hydraulic equipment and tools enterprise in Forani is one of the newly-built industrial units of Vaslui county. In the hydraulic elements department (photo below) a new Hungarian-made automated processing technological line is turning out parts for high-tech machines and equipment.



INGOT LATHE

Standing out among the cutting equipment manufactured by the Suceava enterprise of machine tools is a special processing lathe. With a maximum 15-lb heavy charge between points a maximum turning diameter of 800 mm and a length between points of 5,000 mm, it is 1.500

impresses through both its capacity of processing highly alloyed steels and its size — 18,730 mm in length, 2,230 mm in height and 3,120 mm in width. A giant whose performances are nevertheless controlled and guided by the control panel attached to it. (Photo below)



SPORTS

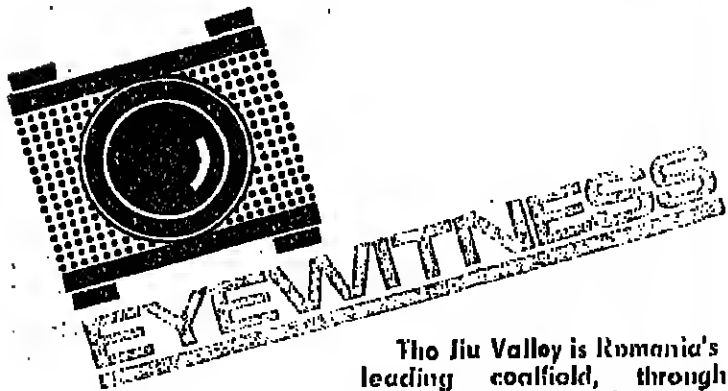
Romania's men's handball champion Steaua Bucharest beat Denmark's champion team L.P. Kolding 23-21 at home and 23-21 away and went through to the quarterfinals of the European Champions' Cup. In the women's competition, Mureșul Tîrgu Mureș won 23-15 the away match against Turkish team Arçelik Istanbul, after having outscored them at home 27-8.

In the Cup Winners' Cup, the men's team Dinamo Bucharest lost the second leg (away) of their tie against TSKA Mönchengladbach 21-23 but had defeated the Soviet champions at home 22-17 and thus strode into the quarterfinals. In the women's competition, Gloria Buzău (rouned Turkish team Beşiktaş from both legs — 23-17 at home and 33-18 away. Following their two-leg win (20-17 away and 21-18 at home) over Swiss team St. Gallen Fribourg, Gloria Buzău went through to the final. Gloria Buzău were sent out of that competition by the final of Iceland.

SPRING IN DECEMBER

Some five million nursery transplants of tomatoes and other vegetables are being prepared in the hothouses of the Vegetable Growing Research and Production Institute at Vîlcuș, near Buzău. Despite the cold, the plants are growing well. In the hothouses, they will yield fruit, ready to eat, in the cold of winter. In January, the transplants will be sent out to the fields. (Photo below)

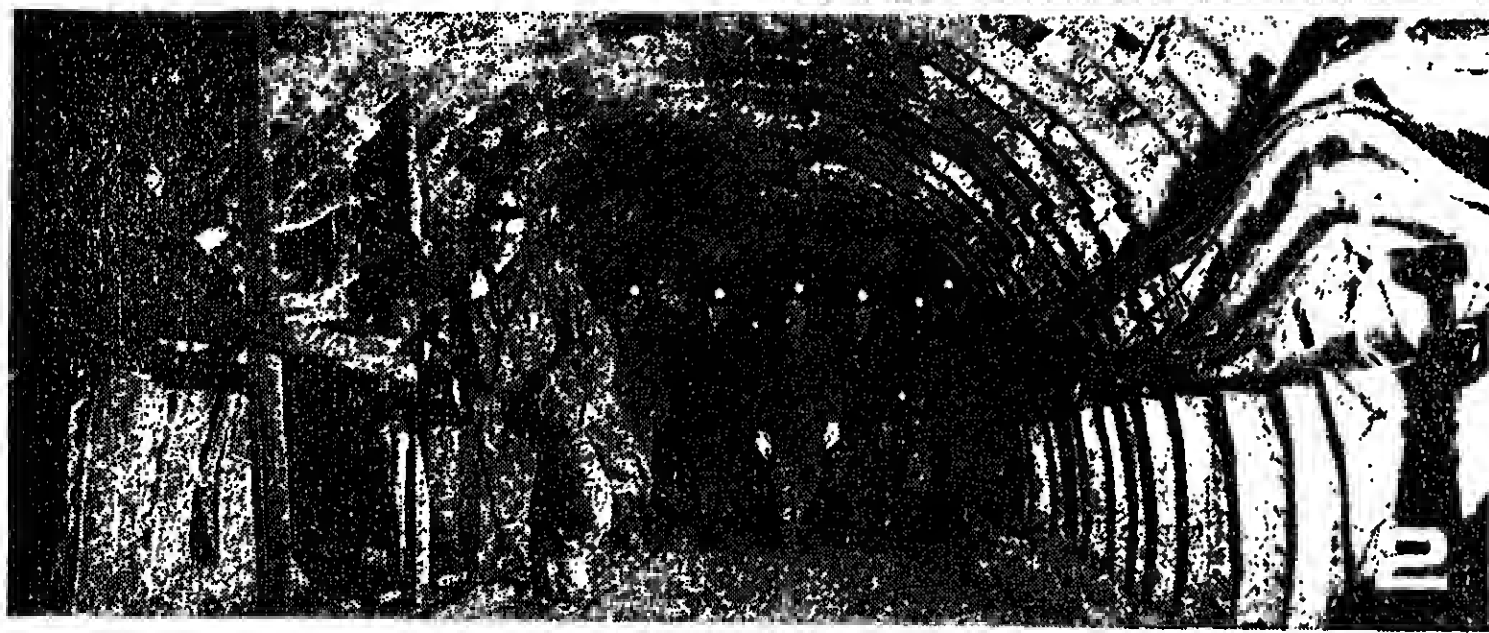




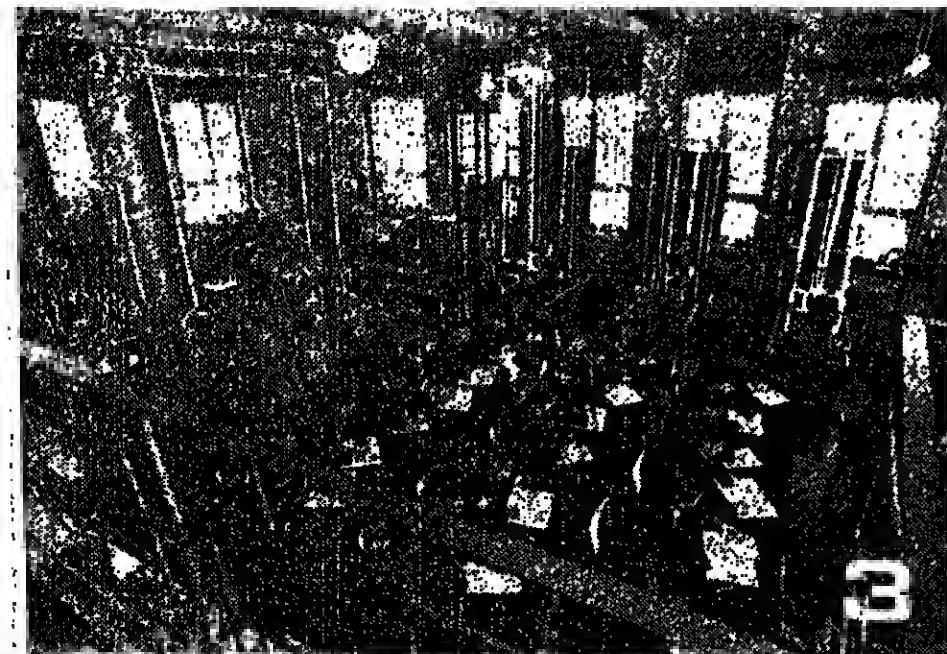
The Jiu Valley is Romania's leading coalfield, through both its size and the quality of the coal extracted from there: pit coal — the raw material for metallurgical coke and fuel coal of up to 4,500–5,000 calories for thermal power stations. In the underground galleries of the 13 productive enterprises of the mining works operations are conducted with modern mechanized machines.



1 View from the control room of the Lupeni Mining Enterprise. The personnel on duty monitor on TV screens and on the flashing maps of the galleries and mine faces the production flows, the running of conveyor belts, the lifting installation, keeping permanently in touch with the men underground.



2 At Lupeni, one more day of fruitful work has been completed. The miners conclude their shift with the feeling of fulfilled duty: they have dug several thousands tons of coal.



3 View from one of the control rooms of the Mining Institute in Petroșani. Here, highly skilled experts are being trained for the mines in the Jiu Valley and the other coalfields in the country.

4 Mechanized cutting machine in a large working face at Lupeni, where the Mining Enterprise, the biggest supplier of coking coal in the country, boasts a high mechanization degree.

5 A forest of underground hydraulic pillars.



A GENETICIST IS LOOKING AT THE WORLD

An enthusiastic decipherer of the human biological destiny, my collocutor seems to ignore — or maybe he just does not care — that his name is a notorious one. And yet it is precisely the humanist side of his researches that earned him fame: the works of medical human genetics and cytogenetics, the first in this country, which he has published since 1967 and, even earlier than that — the volume Introduction to Anthropology (in collaboration) — the first work of the kind in the specialized Romanian literature, or the Paleanthropology Monograph — Sărața Monteoru, which has earned him the Prize of the Academy of the Socialist Republic of Romania. The author of over twenty scientific books, he is well known by the Romanian public thanks to the scores of TV or radio broadcasts whose guest he was.

PEOPLE & IDEAS

The entry of his name in the Who's Who in Science and Who's Who in the World, the first monograph devoted to endocrine genetics in the world, the discovery and description of certain syndromes — included in international catalogues of hereditary diseases — recommended Constantin Maximilian, MD, as a prominent figure beyond the country's borders. His record also comprises over 200 articles published not only in Romanian specialized magazines but also in foreign ones such as Journal of Medical Genetics or Acta endocrinologica. His meetings with numerous scientists having the same specialization at international conventions or as a scholar abroad at various genetic institutes in the USA or Europe convinced the Romanian scientist that people on all continents are worried by the same questions about themselves. It was from the responsible involvement that his book of essays, *A Geneticist is Looking at the World*, was born. The title, which suggests the author's profession of faith, guided the entire literary of my dialogue with Constantin Maximilian: "Should you resort to a comparison, to what would you compare the advent of genetics as a science?"

"With the discovery of fire! Genetics is fantastic because it too participates in transforming the world. And in an even closer

way, at that. Nobody imagined that Huxley's Utopia would one day become a reality. The tale was the subject of T. Taylor's Dialogical Time Bomb. Genetics thus became a bomb about to explode. Genetic engineering was drawing near."

"During the same period you published 'The Advantages of Genetics'. At that time it was an act of courage."

"Yes, those were hot years, reaching with questions and incertitudes. Yet an amazing succession of advances which were to transform the planet was heralded. Ever more specialists lost their faith in luck at the future. The emotional impact was tremendous. Then a few biological breakthroughs exceeding the most sensational anticipations were made: in vitro fertilization, the cloning of animals. That was a decade ago. Today, it is a fact of everyday life. 'Feel me tell you something. When I tell anthropology and genetics working here at the Endocrinology Institute, I feel the world needed a new human biology — starting from a different base and having higher goals'."

"Your feeling was quite right. As for in vitro fertilization — should we refer to this now? — it does not yet seem to be quite on everybody's lips. Accepted by all. Conventional wisdom warns us not to play with fire. The bomb mentioned in the title of Taylor's book suggests a certain fear-provoking similitude. Is the fear justified?"

say that the absurd alone has the chance to be true. But where does the absurd begin?"

"As we all know, it once seemed absurd to imagine that man can live with a borrowed heart or kidney. Organ transplants, implantations of electrodes in the brain, the administration of hormones no longer cause any surprise. But up to what point can one extend the scientific slogan 'man changed by man'?"

"The human biological stock can still be improved, obviously in its intellectual or emotional sides. Evolutionism is undergoing a crisis, hard to suspect yesterday. We need a new theory. We no longer reduce transformation to the play of mutation and of natural selection. Certainly, today man can improve man. By replacing the principles — which in the last analysis are just palliatives — one of the paths leading to the perfection of the human being is to correct the genes, the carriers of hereditary diseases. Filling in this line is the development of definitive therapies. For the time being, however, I think that one of the most fabulous hopes of medicine is the synthesis of specific antibodies 'indigenous' for maintaining the body's integrity. As it has done before, genetic engineering will again defy the impossible."

"All humans without exception would like to be perfectly healthy, intelligent, young and handsome for as long as possible. I have recently read in a special issue of *La Quinzaine* an article setting forth some suggestions for the future of genetic engineering: endowing man with two months, two hearts, wings for those desiring to fly, an additional pair of eyes — at the back... Also proposed to inject the genes of silkworm — in order to render people more conservative and thus eliminate social tension — or genes of intelligence in human embryos in test tubes, with a view to obtaining supergeniuses. After the model of the giant price obtained through implantations of growth hormone genes, some parents ask doctors to make their children superathletes or



superbasketball players over two meters tall. According to the article, certain biotechnological firms have agreed to meet such demands.

"Two-mouthed people? People with a pair of eyes in the

nose? The suggestions do not come from Utopia. Should we get accustomed to the idea that the human nature will have to be completely changed? Who decides what the 'perfect' man will have to look like?"

A MORAL SCIENCE

"Genetics has never been neutral, not even at the time when it emerged with naive concepts. It has constantly wondered where it should stop lest the world's existence should be endangered. I myself wonder for instance what the world would look like if the wise men decide who should live and for how long. A social stratification according to criteria still rejected by imagination could appear. I do not know if this world will ever come into being, but we are in duty-bound to anticipate the possible evolution of science. Will it be obedient in improving the intelligence question? A species of genes... Will it be obedient in eliminating our fears? It is true that the paths of science are unpredictable. But let us admit, for the sake of hypothetical theories alone, that in the end a small population of supermen will appear. An appropriate environment will have to be created for them. The experimental calls for centuries of permanently guided cross-breeding. Should such an experiment take place, all our moral principles would be violated. Who has the right to impose compulsory unions? Who for? What would be the benefits of this?"

"Let science should address morals, the adventures of super-

nities must be rigorously controlled both from inside the scientific community and from outside it. Generally, the risks of reckless experiments can be eliminated through the participation of all those who are interested in science means joy and science equally. I, for one, am not a little. I believe in the role of genetics as a shaper of life. And I put my hopes on the wisdom of our species."

"Speaking of hope, it is no secret that a part of our country, Transilvania — a part of the Transilvania of the past — is still in the process of being built. Will you also be a part of it?"

"It is an attempt to understand the present points of the human destiny. The unpredictable and unpredictable sides of our life."

"What is your most recent wish as a geneticist?"

"To discover new symptoms of hereditary diseases. I belong to a generation which has tried to impose genetics in Romanian medicine. And in a large extent it has succeeded. Genetics takes us closer to the essence of human evolution. Genetics will help us better understand ourselves and the others. Isn't this the great meaning of our existence?"

VIORICA CORDAGIU

GENETICS-MEDICINE

"The breathtaking extent of genetic engineering proved to be beneficial in man, medicine, from the very beginning, the needs of medical therapeutics. Through the geneticist's creative power, the bacteria have started producing insulin, which is so necessary for the time being to diabetics. Here is another example: until not long ago, hypophyseal dwarfism could be treated with human growth hormone, quite difficult to extract. Genetic engineering stepped in, synthesizing the growth hormone which, beyond its immediate utility, filled a void left by the researchers of the great pharmacological companies. Several chromosomal syndromes have been identified. In the year 2000, the three billion copies of the human genome will be determined. Then we shall better understand why we are what we are, why we are happy or sad, why everyone interprets the world in his own way. It is a fascinating prospect for a species which was just recently born."

"A colleague of yours, Marcel Sondell, who specializes in an endocrinologist and his victims of an excellent stylus, noted,

In his book, *Săgara el dilira* (The Dilir of the Dilir), that the serpent has never before hissed so loud in our ears: 'You shall be like gods!' Tim observation, or maybe the warning, refers to the mutations determined by man by subjecting the chromosomes of the reproductive cells to artificial aggression. Do you share this opinion?"

"The answer is more difficult. Genetics continues to be a permanent wonder. However, we can no longer be concerned by its advances alone, but also by their social, moral, impact. Because an apparently harmless line of research can branch out and one of its branches could have devastating consequences — purposefully or accidentally. Not so long ago, man used to be an inextinguishable fire. But now we are faced by a 'venomous' fire, as it were, for the 'pragmatic' moment of foundation — or later? Do we have the right to experiment on an embryo? If the embryo is an integral part of a person, without tests the beginning will never be cleared up. The new embryology is indeed playing with life."

MAN CHANGED BY MAN



ENDOCRINOLOGY AND GENETICS

The I.O. Farson Endocrinology Institute is set up by the Romanian scientists who feel his name to it was one of the first establishments of the kind in the world at the time when endocrinology was

modern treatment requires a polycentric and so-called specialized team. The highly-trained medical staff (some of today's best experts were once I.O. Farson's disciples) will know, through too, are working day and night trying to elucidate the causes of endo-



In December 1982, the hall of the Romanian Athenaeum hosted a festive concert in the honour of Celia Delavrancea, an outstanding personality of Romanian culture — a pianist, writer, music critic, and teacher — on the occasion of her 85th birthday. At the end of the concert, after climbing on stage to perform a few pieces on the piano, the fêted artist addressed the audience in thank everyone for their sympathy, adding that: "I invite you all to meet again five years from now, when I am 100". And Celia Delavrancea kept her word. Five years later, in December 1987, she met again with the audience, listened to a concert given by her guests in Radio Television's large studio, after which she climbed again on stage, this time accompanied by her favourite discipulo, the well-known pianist Dan Grigore, in order to improvise jazz songs and rhythms at four hands. One year has passed since then and Celia Delavrancea has reached the age of 101. Again, in December 1988, she was the point of attraction of a huge audience, gathered in the large studio of the Radio Television — eager to witness an event unique in the world: a concert given in the honour and with the participation of an artist who has outlived a century. The salute began with a few films familiarizing the audience with some of the great personalities of the culture of our century — composers, fine arts, literature — of Romania, and of other countries of the world, with whom Celia Delavrancea came into direct contact or of whom she was a contemporary. A short documentary film, reconstructed according to period images, evoked the imposing figure of writer, jurist and actor Hrabu Delavrancea, the artist's father, after which the screen was filled by Celia Delavrancea herself, as she was filmed while delivering her speech of gratitude



during the December 1987 meeting of the Romanian Academy, when she was celebrated upon her centennial birthday. A true review followed of great personalities of the Romanian musical and poetic interpretative art of all generations. Against the musical background mounted by the Radio Television symphonic ensemble under the baton of the outstanding conductor Emil Simon or Cluj Napoca, who also came to the forefront of attention through their brilliant performance of Mozart's Zauberflöte and Brahms' Academic exercises, the spotlight was shared, in turn, by the great soprano Eugenia Moldoveanu, violinist Andrei Aronson the refined master of the bow, and young Felice Filly, a soprano singer of coloratura. Among the performers, standing out were also Dan Grigore, the leader of the average generation of Romanian piano players and his pupil, young Bogdan Pavlovic. The intervals left between musical performances were filled by the presence of the great actors Leopoldine Blănișu, and Ion Caramilău who recited undying verses from Eminescu.

And then Celia Delavrancea came on stage, announcing that being quite old she would only limit herself to a brief programme made up of pages by Chopin, her favourite composer, she started to play one prelude after another, now and then resuming one of them as if it had been a kind of personal "telling". Warning up progressively, she stretched her "brief" recital to almost one hour, much to the delight and amazement of the audience, fascinated by the vitality, resistance and memory of this musician capable of presenting — at the age of 101 — a programme of such dimensions, at the same time displaying the qualities which have always characterized her art: the beauty of tone, a varied range of hues, the delicacy of touch, the refusal of virtuosity as a goal in itself.

EDGAR ELIAN ■
Photo: CORNELIU MOCANU ■



After four feature (Good Evening, Irina, The Winner, Lonely on Water and Confidence), film director Tudor Mărușcu proposes a new premiere — Miracolul (The Miracle) — about to become a reference event in the history of the Romanian film inspired from today's reality. First of all because it deals with ground-breaking technologies in the field of Romanian agriculture (the transformation of one-time sandy areas into crop-yielding soils). Secondly, because the story (based upon true facts) is significantly incorporated by the script writers — playwright Ion Bălescu and the film director himself — into the destiny of times who made and lived the "miracle" of changing the face of that land. Finally, because the film outclasses any previous performance in point of artistic achievement.

For young agronomist Tudor Voinea (remarkably interpreted by the untimely shelved Aotun Taut), the transformation of the "little Sahara" haunted by devastating sands and eroded winds into a fertile oasis is not just a matter of uprooting and confrontation with self-complexity but mainly one of conscience. The led with himself exceeds the framework of professional ambition, launching the zone of existential convictions and aspirations. The character is never tired of starting over again, incessantly striving to overcome the vicissitudes of nature and the human prejudice. The film is a remarkable achievement also thanks to the contribution of cameraman Cristinel Căneaga, composer Galin Ianculescu and scenic painter Mircea Tolănuț, all of whom proved an inspired choice for film director Tudor Mărușcu.

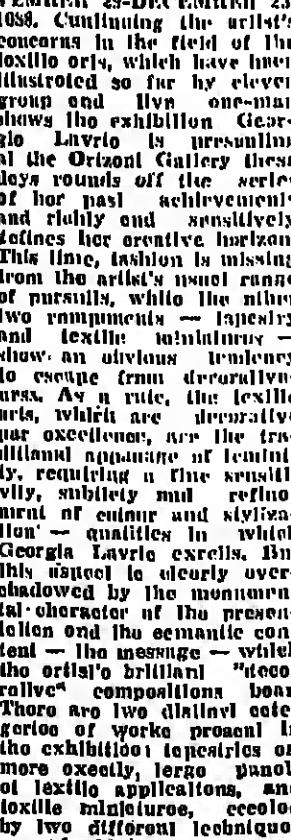


Nearing completion is the shooting of Miracolul, The Great, a film production devoted to the life of the great volvo of Valoachia, whose rule (1366-1418) was a miracle of cruel importance



for the history of the Romanians, through his heroic acts of preserving his country's independence and sovereignty. The screenplay was made by the reputed contemporary prose writer and the film director is coordinated by the experienced Sergiu Nicolaescu, who also plays the leading role.

interlegers. The exhibition puts on view a rich selection of manuscripts devoted to the ruler and his epoch, starting with that of world-famous historian Nicolae Iorga.



EXPO

Falling in line with the wide-scope cultural events devoted to the anniversary of 300 years since Constantin Brancoveanu's ascent to the throne of Wallachia in the exhibition housed by the Independence Museum of Ghidighița, Brancoveanu's long rule (1688-1714) went down in Romania's history as a highly enlightening and period in the struggle for the defence of the Romanian people's identity of independence and freedom. A highly gifted ruler, Brancoveanu encouraged the development of monumental art and Romanian painting. Besides the photographic images of his famous foundations of Buzău and Măgurele, pride of place is given to several works, the Brancoveanu family's arms and seal, old Romanian paintings. An outstanding personality of the Romanian people's history, Constantin Brancoveanu opened the interest of many his-



The traditional Yearbook of the Main Musical Data and Events of 1988 was recently issued at Musica Publishing House in Moscow. The Soviet researcher Zinaida Lutes, a participant in the recently held "George Enescu" International Symposium in Bucharest, published an ample article on the Romanian mezzo-soprano Zinaida Lutes, on the occasion of the singer's 70th birthday anniversary. After presenting her biography, studies, tours abroad on the USSR alone she made 20 tours starting with 1962, appearing on all the Soviet lyrical stages. Zinaida Lutes sang Zinaida Lutes' main creations especially the role of the Sphinx in George Enescu's Oedipus. The article includes numerous data on the successes scored by the Romanian singer in the USSR.

CZECHOSLOVAKIA

Atheneas Publishing House of Prague put out the translation of the novel "The Pigeon" — All Right Up by the contemporary Romanian writer Iliada Tudora in the Russian version. The book was issued in the RSD series.

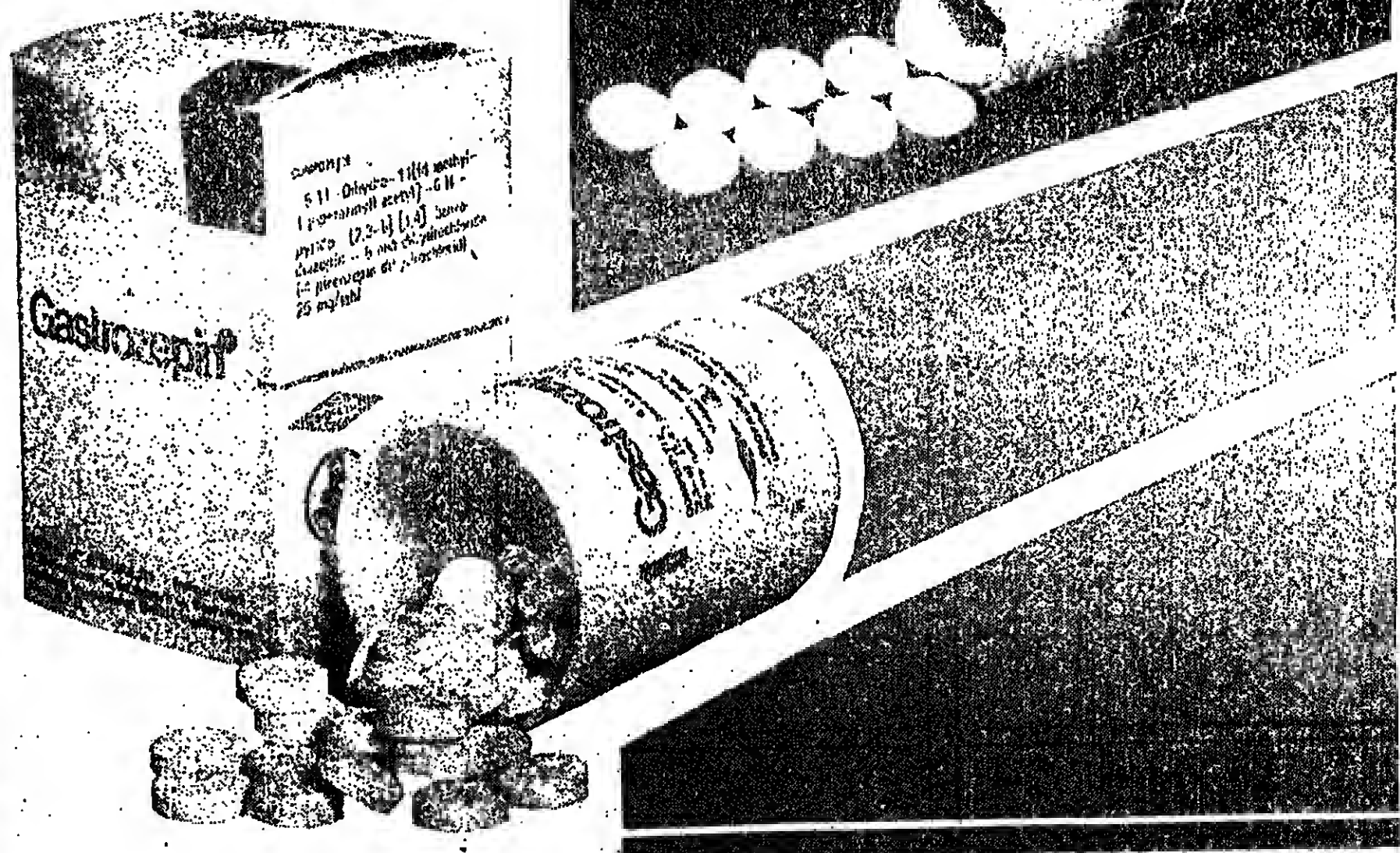
by great historical compositions in which a lot of folk-tale music, mainly suggested by the warm colours, is vividly enhanced by the simplicity and monumentality of the figures and their frameworks, by the hierarchy of the stylizations. The artist also issued a consistent large number of application presenting fantastic birds, in rich and brilliant colours, surprisingly having their own attributes and stillness. A world of fables, playfully coloured by subtle and affable irony. Here too, the dimensions, the lay-out, the approach in general and monumental characteristics in the panels, and the atmosphere is less rigid, rather softer, demystifying the



conformism of the human relationships by means of an artistic approach compared to the reality with which the artist is in contact. The artist's work is a kind of "magical threads" and we are actually amazed by the monumental figure of the artist, who is not only by the dimensions of a mural panel that characterizes all the works in this exhibition, but by the treatment of large areas — to which the precious quality of the fabrics and the totality of the colours impart depth and richness and in which details are on with striking materials — metal, wood, gold wire and lacquer. These works, of which are figurative, have two dominant concerns: through their lines and stylization they are illus-

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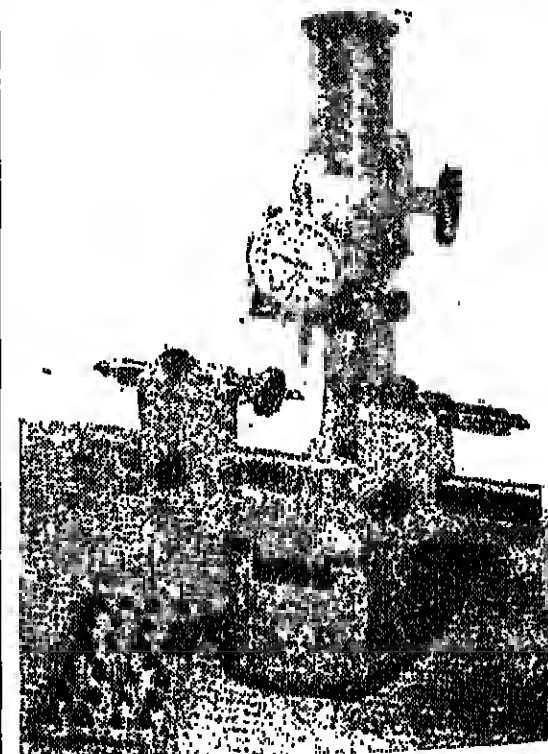
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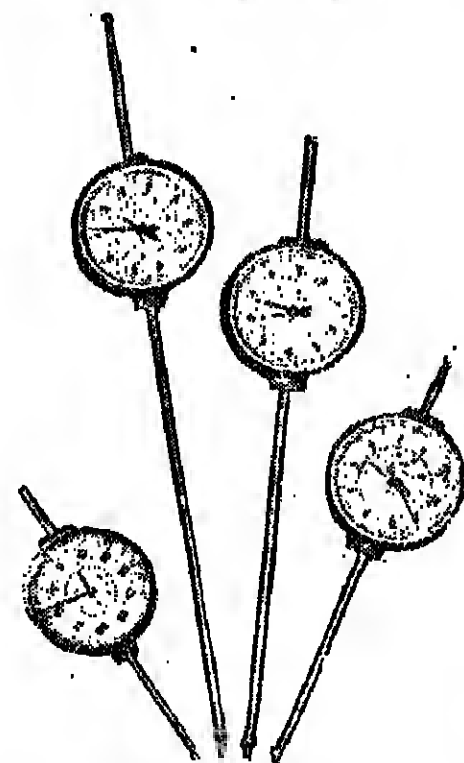


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- in-process sizing gauge for continuous exterior cylinder surfaces with one and two measuring points ● for continuous exterior surfaces and for continuous interior cylinder surfaces with two measuring points ● in-process sizing gauge for centreless grinding machines ● in-process sizing gauge for exterior diameters of narrow surfaces ● copying systems mounted on machine tools for processing through copying after a pattern.



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IMF TRADEMARK



SINTER-CARBIDE METAL PRODUCTS

The main groups of products bearing the "CARME-SIN" mark — which are the object of the Bucharest Fine Mechanics Enterprise's production programme — are the following: sinter-carbide metal brazable tips and inserts for metal cutting; sinter-carbide metal inserts for mining tools; sinter-carbide metal inserts specific to the wood industry, building materials and extraction industry; products for drilling installations; dies for screws and nuts; dies for roll bearings; other types of products upon the foreign partners' demand.

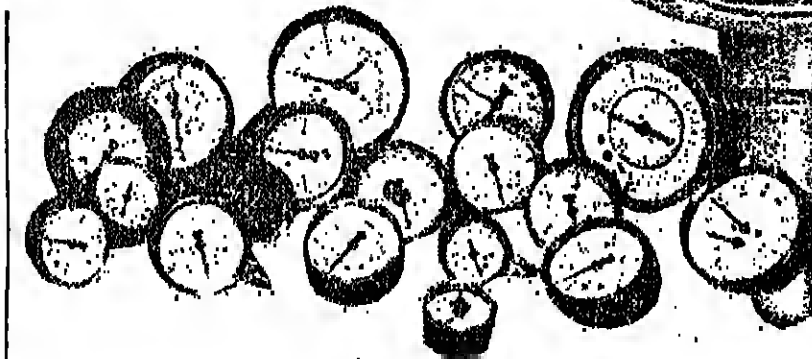
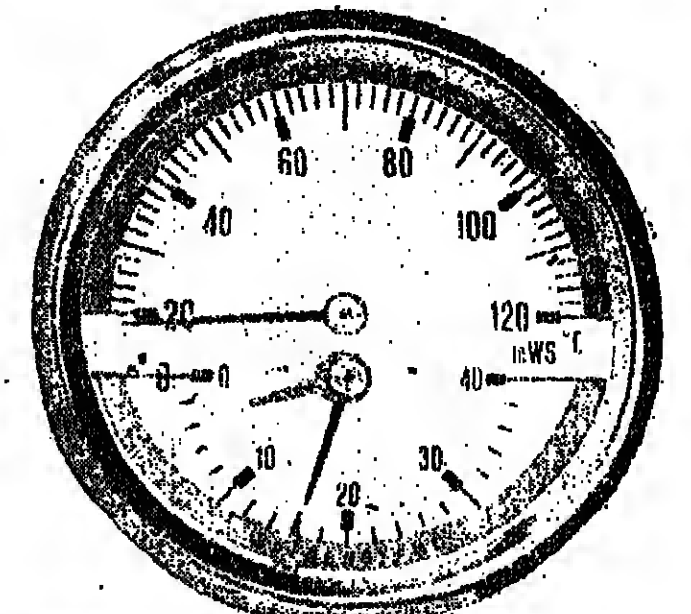
According to the concrete destination indicated by the end user, these products are executed out of the PKMG groups of carbide metal powder, after ISO international standards or according to other requirements specified in the order.

In order to increase the durability and performances of the sinter-carbide metal inserts, the method is applied of coating them with extra-hard layers of titanium carbide, giving the inserts an increased durability of up to 300 percent, as compared to the normal execution.



PRESSURE GAUGES

Through the great diversity resulting from constructive variants based on measuring limits, accuracy, diameter, connection and scale type, the Fine Mechanics Enterprise can satisfy the most exigent demands of its clients (standard pressure gauges or of special construction, upon demand). There are: ● general use industrial manometers ● vibration-proof manometers ● corrosion-proof manometers ● capsule-manometers ● double indication manometers ● manometers-thermometers.



DIAMOND TOOLS

The processing of ferrous and non-ferrous metals, of sinter-carbide metal, stone, concrete, ceramic and glass — through modern methods — calls for the use of diamond tools on an ever larger scale.

The manufacturing programme of this kind of tools is achieved at IMF on the basis of the licence purchased from WINTER firm of West Germany and is currently in full swing as a result of the growing demand. It comprises the following more important groups:

- diamond mills with metallic or resin-

ous binder of various shapes and sizes, with cubic boron nitride.

- diamond tools for construction-material processing
- diamond tools with galvanic binder
- honing diamond blades
- diamond pastes
- diamond tools for trimming and shaping abrasive stones
- chamfering tools with extra-hard materials from diamond polycrystals or cubic boron nitride
- diamond drawing dies.

AND THE EXACT TIME

WHICH YOU CAN LEARN AT ANY MOMENT BY LOOKING AT THE DIAL OF THE WATCH WHOSE TRADEMARK OREX IS A GUARANTEE OF ACCURACY. BUILT IN SEVERAL HUNDRED MODELS BY IMF, THE WATCHES — MECHANIC OR QUARTZ-BASED ANALOG — MEET THE FINENESS OF YOUR AESTHETIC TASTE AND GIVE YOU THE EXACT TIME.



MANUFACTURER:
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